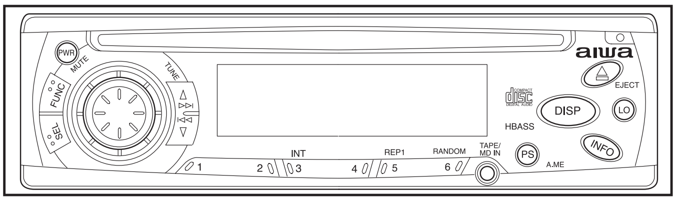
aiwa SERVICE

CDC-Z107 YU



SERVICE MANUAL

STEREO CAR CD RECEIVER BASIC CD MECHANISM : TN-CCD1001-113J

• This Service Manual is the “Revision Publishing” and replaces “Simple Manual” of CDC-Z107<YU>, (S/M Code No. 09-99B-422-4T1).

REVISION DATA

aiwa

S/M Code No. 09-002-422-4R1

SPECIFICATIONS

RADIO SECTION

(FM)

Frequency Range	87.5 MHz –108 MHz (100-kHz steps)
	87.5 MHz –108 MHz (50-kHz steps)
Usable Sensitivity	12.7 dBf
50 dB Quieting Sensitivity	17.2 dBf
IF Rejection	80 dB
Frequency Response	30 Hz – 15,000 Hz
S/N Ratio	63 dB
Stereo Separation	35 dB at 1 kHz
Alternate Channel Selectivity	70 dB
Capture Ratio	3 dB

(AM)

Frequency Range	530 kHz – 1,710 kHz (10-kHz steps)
	531 kHz – 1,602 kHz (9-kHz steps)
Usable Sensitivity	30 µV (30 dB)

Set the frequency increment for your area using the switch on the bottom of the unit.
(The switch is set at the factory to the 10k position [for the U.S.A.])

CD SECTION

Frequency Response	17 Hz – 20 kHz +0/–3 dB
Dynamic Range	More than 80 dB
Channel Separation	More than 65 dB
S/N Ratio	More than 85 dB
Wow/Flutter	Unmeasurable

AUDIO SECTION

Max. Power Output	45 W x 4 channels

TAPE/MD IN input

Input Sensitivity (load impedance)

TAPE/MD IN	500 mV (10 kΩ)

GENERAL

Power Supply Voltage	14.4 V (11 to 16 V allowable), DC, negative ground
Load Impedance	4 Ω
Tone Control	Bass ±10 dB at 100 Hz
	Treble ±10 dB at 10 kHz
Preamp Output Voltage (load impedance)	2.2 V (10 kΩ)
Installation Size	182 (W) x 53 (H) x 155 (D) mm
	($7^1/_4$ (W) x $2^1/_8$ (H) x $6^1/_8$ (D) inches)

• Design and specifications are subject to change without notice.

ACCESSORIES / PACKAGE LIST

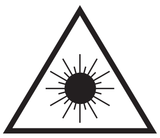
REF. NO.	PART NO.	KANRI	DESCRIPTION
1	8A-KC7-902-010		IB,INST,YU,YL (3L,P)
1	8A-KCH-901-010		IB,YU(3L) 107
2	87-B10-141-010		NUT,5 TYPE-2
3	87-B10-143-010		UT1+5-15 W/O SLOT
4	87-B10-144-010		W,5.2-10-0.5
5	87-B10-145-010		W-SPR,5.3-8.5-1.5
6	8Z-KC1-231-110		HLDR,HALF -C
7	8Z-KC1-232-010		KEY,REMOVE -C
8	8Z-KC1-235-010		HLDR,REAR MTG
9	8Z-KC1-244-010		S-SCREW,5*6 TH+ TAPPING ST
10	8Z-KC1-250-010		S-SCREW,HEXAGON
11	8Z-KT1-616-010		CONN ASSY,16P B52

PROTECTION OF EYES FROM LASER BEAM DURING SERVICING

This set employs laser. Therefore, be sure to follow carefully the instructions below when servicing.

WARNING!!

WHEN SERVICING, DO NOT APPROACH THE LASER EXIT WITH THE EYE TOO CLOSELY. IN CASE IT IS NECESSARY TO CONFIRM LASER BEAM EMISSION. BE SURE TO OBSERVE FROM A DISTANCE OF MORE THAN 30cm FROM THE SURFACE OF THE OBJECTIVE LENS ON THE OPTICAL PICK-UP BLOCK.



- Caution: Invisible laser radiation when open and interlocks defeated avoid exposure to beam.
- Advarsel: Usynlig laserståling ved åbning, når sikkerhedsafbrydere er ude af funktion. Undgå udsættelse for stråling.

VAROITUS!

Laiteen Käyttäminen muulla kuin tässä käyttöohjeessa mainitulla tavalla saataa altistaa käyt-täjän turvallisuusluokan 1 ylittävälle näkymättömälle lasersäteilylle.

VARNING!

Om apparaten används på annat sätt än vad som specificeras i denna bruksanvising, kan användaren utsättas för osynling laserstrålning, som överskrider gränsen för laserklass 1.

CAUTION

Use of controls or adjustments or performance of procedures other than those specified herin may result in hazardous radiation exposure.

ATTENTION

L'utillisation de commandes, réglages ou procédures autres que ceux spécifiés peut entraîner une dangereuse exposition aux radiations.

ADVARSEL

Usynlig laserståling ved åbning, når sikkerhedsafbrydereer ude af funktion. Undgå udsættelse for ståling.

This Compact Disc player is classified as a CLASS 1 LASER product.
The CLASS 1 LASER PRODUCT label is located on the rear exterior.

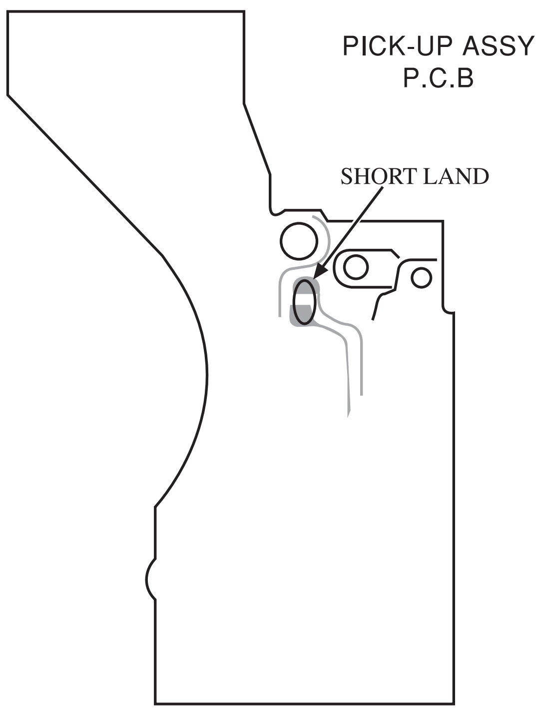
CLASS 1	LASER PRODUCT
KLASSE 1	LASER PRODUKT
LUOKAN 1	LASER LAITE
KLASS 1	LASER APPARAT

Precaution to replace Optical block

(OPTIMA-720AIE)

Body or clothes electrostatic potential could ruin laser diode in the optical block. Be sure ground body and workbench, and use care the clothes do not touch the diode.

1) After the connection, remove solder shown in right figure.



ELETRICAL MAIN PARTS LIST

IC

REF. NO.	PART NO.	KANRI NO.	DESCRIPTION
	87-A20-446-010		C-IC,LA9241ML
	87-A21-319-010		C-IC,LC78622NE
	87-A21-488-040		C-IC,LA6556
	8Z-KT1-622-010		C-IC,LC75374E
	87-A21-562-010		IC,LA4743B
	88-KT1-606-080		IC,PST994D
	87-A21-535-030		C-IC,LC72358N-9910
	87-A21-489-030		C-IC,LC75853NW

TRANSISTOR

REF. NO.	PART NO.	KANRI NO.	DESCRIPTION
	89-324-122-080		TR,2SC2412K
	87-A30-289-040		C-TR,2SA1037AK(R)
	87-A30-288-040		C-TR,DTC114YKA
	87-A30-287-040		C-TR,DTC114TKA
	87-026-235-080		CHIP-TR,DTC114EK
	87-026-210-080		CHIP-TR,DTC144EK
	87-A30-299-080		TR,2SB1326
	87-A30-282-040		C-TR,DTA114TKA
	87-A30-168-010		TR,2SB1566F
	89-211-821-080		CHIP-TR 2SB1182Q
	89-423-953-010		TR,2SD2395F
	87-A30-301-080		TR,2SD1862
	87-A30-449-040		C-TR,DTA123YKA

DIODE

REF. NO.	PART NO.	KANRI NO.	DESCRIPTION
	87-A40-250-080		CHIP-DIODE,DAN217
	87-001-783-080		DIODE,1N4002
	87-020-331-080		C-DIODE,DAN202K
	87-A40-624-080		ZENER,MTZJ10A
	87-A40-523-080		ZENER,MTZJ9.1B
	87-070-136-080		ZENER,MTZJ5.1B
	87-017-932-080		ZENER,MTJ6.2B
	87-A40-798-010		DIODE,1N5402 (3A/200V)

MAIN C.B

REF. NO.	PART NO.	KANRI NO.	DESCRIPTION
C101	87-010-178-080		CHIP CAP 1000P
C102	87-010-197-080		CAP, CHIP 0.01 DM
C103	87-010-495-040		CAP,E 2.2-50 GAS
C106	87-010-322-080		C-CAP,S 100P-50 CH
C107	87-010-552-040		CAP,E 22-16 GAS
C108	87-010-322-080		C-CAP,S 100P-50 CH
C109	87-010-553-040		CAP,E 47-16 GAS
C110	87-010-198-080		CAP, CHIP 0.022
C111	87-010-553-040		CAP,E 47-16 GAS
C112	87-010-185-080		C-CAP,S 3900P-50 B
C113	87-010-197-080		CAP, CHIP 0.01 DM
C114	87-010-197-080		CAP, CHIP 0.01 DM
C115	87-010-196-080		CHIP CAPACITOR,0.1-25
C116	87-010-196-080		CHIP CAPACITOR,0.1-25
C131	87-012-365-080		C-CAP,S 0.027-25VBK
C132	87-012-365-080		C-CAP,S 0.027-25VBK
C133	87-012-358-080		C-CAP,S 0.47-10 F Z
C134	87-012-358-080		C-CAP,S 0.47-10 F Z
C161	87-010-196-080		CHIP CAPACITOR,0.1-25
C171	87-010-197-080		CAP, CHIP 0.01 DM
C173	87-010-322-080		C-CAP,S 100P-50 J CH GRM
C201	87-010-553-040		CAP,E 47-16 GAS
C202	87-010-553-040		CAP,E 47-16 GAS
C203	87-010-178-080		CHIP CAP 1000P
C204	87-016-669-080		C-CAP,S 0.1-25 K B
C205	87-A11-606-080		C-CAP,S 0.22-25 K B
C206	87-010-492-040		CAP,E 0.33-50 GAS
C207	87-010-195-080		C-CAP,S 0.068-25 Z F C2012
C208	87-010-176-080		C-CAP,S 680P-50 J SL
C209	87-010-992-080		C-CAP,S 0.047-25 K B MK212

REF. NO.	PART NO.	KANRI NO.	DESCRIPTION
C210	87-016-669-080		C-CAP,S 0.1-25 K B
C211	87-010-498-040		CAP,E 10-16 M 5L SRE
C212	87-010-180-080		C-CER 1500P
C213	87-010-992-080		CAP, CHIP 0.047
C214	87-016-669-080		CHIP CAPACITOR,0.1-25
C215	87-010-178-080		CHIP CAP 1000P
C216	87-A11-606-080		C-CAP,S 0.22-25 K B
C217	87-016-669-080		CAP, CHIP 0.01 DM
C218	87-010-198-080		CAP, CHIP 0.022
C219	87-012-157-080		C-CAP,S 330P-50 CH
C220	87-010-184-080		CHIP CAPACITOR 3300P(K)
C221	87-010-322-080		C-CAP,S 100P-50 CH
C222	87-010-492-040		CAP,E 0.33-50 GAS
C223	87-010-067-040		CAP,E 0.1-50 5L
C224	87-010-553-040		CAP,E 47-16 GAS
C225	87-010-805-080		C-CAP,S 1-16 Z F
C226	87-010-497-040		CAP,E 4.7-35 GAS
C227	87-010-555-040		CAP,E 100-10 GAS
C228	87-016-669-080		CHIP CAPACITOR,0.1-25
C229	87-010-498-040		CAP,E 10-16 GAS
C230	87-016-669-080		CHIP CAPACITOR,0.1-25
C231	87-010-555-040		CAP,E 100-10 GAS
C232	87-016-669-080		CHIP CAPACITOR,0.1-25
C233	87-010-555-040		CAP,E 100-10 GAS
C234	87-010-193-080		CHIP CAPACITOR,0.033
C235	87-010-992-080		CAP, CHIP 0.047
C236	87-010-067-040		CAP,E 0.1-50 5L
C237	87-010-553-040		CAP,E 47-16 GAS
C238	87-010-197-080		CAP, CHIP 0.01 DM
C240	87-016-669-080		C-CAP,S 0.1-25 K B
C250	87-016-669-080		CHIP CAPACITOR,0.1-25
C251	87-010-555-040		CAP,E 100-10 GAS
C252	87-016-669-080		CHIP CAPACITOR,0.1-25
C253	87-016-669-080		CHIP CAPACITOR,0.1-25
C254	87-016-669-080		CHIP CAPACITOR,0.1-25
C256	87-010-186-080		CAP,CHIP 4700P
C258	87-010-150-080		C-CAP,S 6P-50 D CH
C259	87-010-316-080		C-CAP,S 33P-50 CH
C261	87-012-156-080		C-CAP,S 220P-50 CH
C262	87-016-669-080		CHIP CAPACITOR,0.1-25
C263	87-010-555-040		CAP,E 100-10 GAS
C264	87-010-555-040		CAP,E 100-10 GAS
C265	87-016-669-080		CHIP CAPACITOR,0.1-25
C266	87-016-669-080		CHIP CAPACITOR,0.1-25
C267	87-010-498-040		CAP,E 10-16 GAS
C268	87-010-498-040		CAP,E 10-16 GAS
C269	87-010-180-080		C-CER 1500P
C270	87-010-180-080		C-CER 1500P
C271	87-010-154-080		CAP CHIP 10P
C272	87-010-154-080		CAP CHIP 10P
C273	87-010-494-040		CAP,E 1-50 GAS
C274	87-010-494-040		CAP,E 1-50 GAS
C280	87-A10-189-040		CAP,E 220-10
C281	87-010-555-040		CAP,E 100-10 GAS
C282	87-016-669-080		CHIP CAPACITOR,0.1-25
C301	87-010-498-040		CAP,E 10-16 GAS
C302	87-010-498-040		CAP,E 10-16 GAS
C303	87-010-494-040		CAP,E 1-50 GAS
C304	87-010-494-040		CAP,E 1-50 GAS
C305	87-010-184-080		CHIP CAPACITOR 3300P(K)
C306	87-010-184-080		CHIP CAPACITOR 3300P(K)
C307	87-010-198-080		CAP, CHIP 0.022
C308	87-010-198-080		CAP, CHIP 0.022
C309	87-010-498-040		CAP,E 10-16 GAS
C310	87-010-498-040		CAP,E 10-16 GAS
C311	87-A11-177-080		C-CAP,S 0.15-16 K B
C312	87-A11-177-080		C-CAP,S 0.15-16 K B
C313	87-A11-177-080		C-CAP,S 0.15-16 K B
C314	87-A11-177-080		C-CAP,S 0.15-16 K B
C315	87-010-498-040		CAP,E 10-16 GAS

REF. NO.	PART NO.	KANRI NO.	DESCRIPTION
C316	87-010-498-040		CAP,E 10-16 GAS
C321	87-010-196-080		CHIP CAPACITOR,0.1-25
C322	87-010-555-040		CAP,E 100-10 M 5L SRE
C323	87-010-196-080		CHIP CAPACITOR,0.1-25
C324	87-010-498-040		CAP,E 10-16 GAS
C351	87-010-494-040		CAP,E 1-50 GAS
C352	87-010-494-040		CAP,E 1-50 GAS
C353	87-010-494-040		CAP,E 1-50 GAS
C354	87-010-494-040		CAP,E 1-50 GAS
C361	87-012-358-080		C-CAP,S 0.47-10 F Z
C362	87-012-358-080		C-CAP,S 0.47-10 F Z
C363	87-012-358-080		C-CAP,S 0.47-10 F Z
C364	87-012-358-080		C-CAP,S 0.47-10 F Z
C365	87-010-175-080		CAP 560P
C366	87-010-175-080		CAP 560P
C367	87-010-175-080		CAP 560P
C368	87-010-175-080		CAP 560P
C453	87-010-498-040		CAP,E 10-16 GAS
C454	87-010-498-040		CAP,E 10-16 GAS
C457	87-012-140-080		CAP 470P
C458	87-012-140-080		CAP 470P
C461	87-005-902-080		C-COIL,S 4.7UH K LK2125
C511	8A-KC7-623-000		CAP,E 2200U-16 BT(125C)
C512	87-010-196-080		CHIP CAPACITOR,0.1-25
C513	87-010-196-080		CHIP CAPACITOR,0.1-25
C514	87-010-553-040		CAP,E 47-16 M 5L SRE
C515	87-010-494-040		CAP,E 1-50 GAS
C516	87-010-178-080		CHIP CAP 1000P
C517	87-010-178-080		CHIP CAP 1000P
C519	87-010-494-040		CAP,E 1-50 M 5L SRE
C551	87-010-553-040		CAP,E 47-16 GAS
C590	87-010-178-080		CHIP CAP 1000P
C611	87-010-553-040		CAP,E 47-16 GAS
C612	87-010-198-080		CAP, CHIP 0.022
C613	87-016-044-040		CAP,E 100-16 GAS
C621	87-010-553-040		CAP,E 47-16 GAS
C622	87-010-553-040		CAP,E 47-16 GAS
C641	87-010-196-080		CHIP CAPACITOR,0.1-25
C642	87-010-196-080		CHIP CAPACITOR,0.1-25
C671	87-010-198-080		CAP, CHIP 0.022
C672	87-010-555-040		CAP,E 100-10 GAS
C673	87-010-553-040		CAP,E 47-16 GAS
C674	87-010-198-080		CAP, CHIP 0.022
C681	87-010-553-040		CAP,E 47-16 GAS
C682	87-010-198-080		CAP, CHIP 0.022
C701	87-010-315-080		C-CAP,S 27P-50 CH
C702	87-010-314-080		C-CAP,S 22P-50V
C706	87-010-497-040		CAP,E 4.7-35 GAS
C711	87-010-322-080		C-CAP,S 100P-50 CH
C712	87-010-322-080		C-CAP,S 100P-50 CH
C761	87-010-555-040		CAP,E 100-10 GAS
C763	87-010-196-080		CHIP CAPACITOR,0.1-25
C771	87-012-156-080		C-CAP,S 220P-50 J CH GRM
C831	87-010-494-040		CAP,E 1-50 GAS
C832	87-010-494-040		CAP,E 1-50 GAS
C835	87-010-182-010		C-CAP,S 2200P-50 K B C2012
C836	87-010-182-010		C-CAP,S 2200P-50 K B C2012
C881	87-010-182-080		C-CAP,S 2200P-50 B
C882	87-010-182-080		C-CAP,S 2200P-50 B
C883	87-010-182-080		C-CAP,S 2200P-50 B
C884	87-010-182-080		C-CAP,S 2200P-50 B
CON201	87-A60-859-010		CONN,12P TKC-F12X-K1
CON202	87-A60-860-010		CONN,14P TKC-F14X-K1
CON881	8Z-KT1-611-010		CONN,16P CAM-B51
⚠ F881	8Z-KC1-621-010		FUSE,15A 32V
J101	8Z-KT1-614-010		ANT,AW-002
J451	87-A61-225-010		JACK,PIN 2P XR-401
L101	87-003-143-080		COIL 4.7 UH
L102	8Z-KT1-619-010		COIL,68MH K7-D
L671	87-003-149-080		COIL,47UH
L831	87-003-143-080		COIL,4.7UH K LAL02
L881	8Z-KT1-615-010		FLTR,AMORPHOUS -CHOKE
R241	87-022-371-080		C-RES,S 330K-1/10W F
R242	87-022-371-080		C-RES,S 330K-1/10W F
SW702	87-A91-152-010		SW,SL 1-1-2 SSSS212-11-A
TU101	8A-KC8-621-010		TU UNIT, FAE347-A12
X201	81-592-641-010		VIB,CER 16.93MHZ
X701	87-A70-175-010		VIB,XTAL 4.5MHZ AT-49

FRONT C.B

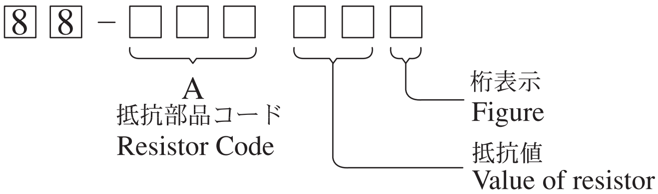
REF. NO.	PART NO.	KANRI NO.	DESCRIPTION
C901	87-010-805-080		CAP, S 1-16
C902	87-010-194-080		CAP, CHIP 0.047
C903	87-010-194-080		CAP, CHIP 0.047
C904	87-010-177-080		C-CAP,S 820P-50 SL
C905	87-010-196-080		CHIP CAPACITOR,0.1-25
LCD901	8A-KCG-610-010		LCD,AKC-16-17
LED951	87-A91-052-080		LED,SEL6227S RED
LED952	87-A91-052-080		LED,SEL6227S RED
LED953	87-A91-052-080		LED,SEL6227S RED
LED961	87-A40-813-040		C-LED,SEC1E01C BLUE
LED962	87-A40-813-040		C-LED,SEC1E01C BLUE
LED963	87-A40-813-040		C-LED,SEC1E01C BLUE
PL901	8Z-KT1-641-010		LAMP,T-3
PL902	8Z-KT1-641-010		LAMP,T-3
SW901	87-036-251-080		SW,T CT 6X3.5 160
SW902	87-036-251-080		SW,T CT 6X3.5 160
SW903	87-036-251-080		SW,T CT 6X3.5 160
SW904	87-036-251-080		SW,T CT 6X3.5 160
SW905	87-036-251-080		SW,T CT 6X3.5 160
SW906	87-036-251-080		SW,T CT 6X3.5 160
SW907	87-036-251-080		SW,T CT 6X3.5 160
SW908	87-036-251-080		SW,T CT 6X3.5 160
SW910	87-036-251-080		SW,T CT 6X3.5 160
SW911	87-036-251-080		SW,T CT 6X3.5 160
SW913	87-036-251-080		SW,T CT 6X3.5 160
SW914	87-036-251-080		SW,T CT 6X3.5 160
SW915	87-036-251-080		SW,T CT 6X3.5 160
SW916	87-036-251-080		SW,T CT 6X3.5 160
SW917	87-036-251-080		SW,T CT 6X3.5 160
SW918	87-036-251-080		SW,T CT 6X3.5 160
SW921	87-A91-597-010		SW,RTRY SIM-026MT
SW971	87-036-251-080		SW,T CT 6X3.5 160

AUX C.B

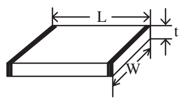
REF. NO.	PART NO.	KANRI NO.	DESCRIPTION
CON831	87-A60-912-010		CONN,3P V 1MSA-9202B-1
J831	85-HRL-623-010		JACK,3.5 ST BLK

○チップ抵抗部品コード／CHIP RESISTOR PART CODE

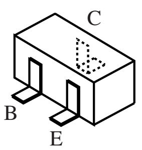
チップ抵抗部品コードの成り立ち
Chip Resistor Part Coding



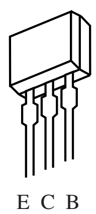
チップ抵抗
Chip resistor

容量 Wattage	種類 Type	許容誤差 Tolerance	記号 Symbol	寸法／Dimensions (mm) 外形／Form	L	W	t	抵抗コード : A Resistor Code : A
1/16W	1005	± 5%	CJ		1.0	0.5	0.35	104
1/16W	1608	± 5%	CJ		1.6	0.8	0.45	108
1/10W	2125	± 5%	CJ		2	1.25	0.45	118
1/8W	3216	± 5%	CJ		3.2	1.6	0.55	128

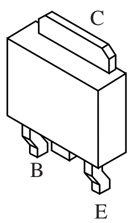
TRANSISTOR ILLUSTRATION



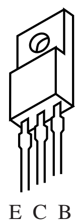
2SA1037
2SC2412
DTA114TKA
DTA123YKA
DTC114EK
DTC114YKA
DTC114TKA
DTC144EK



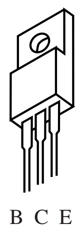
2SB1326
2SD1862



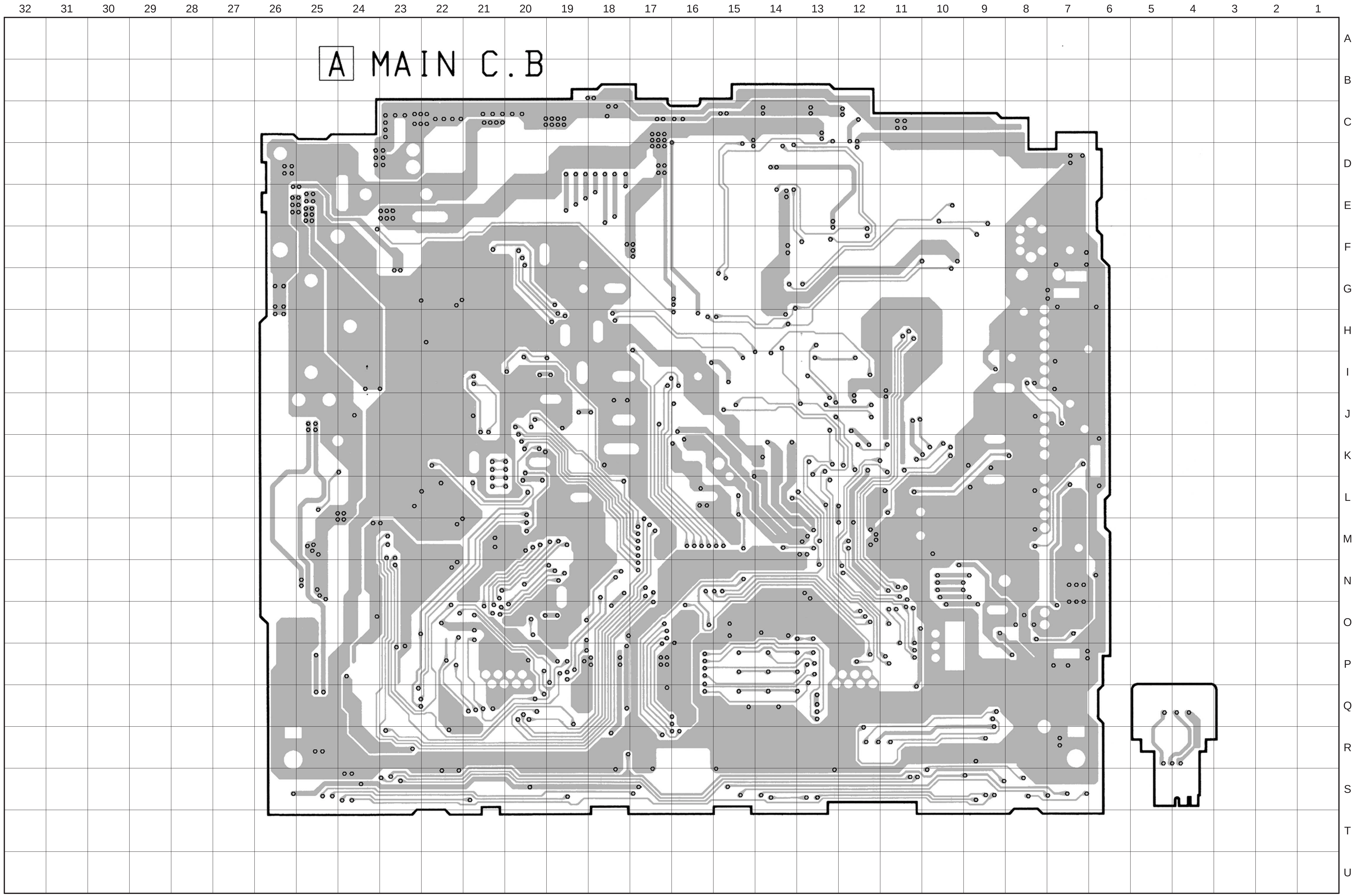
2SB1182

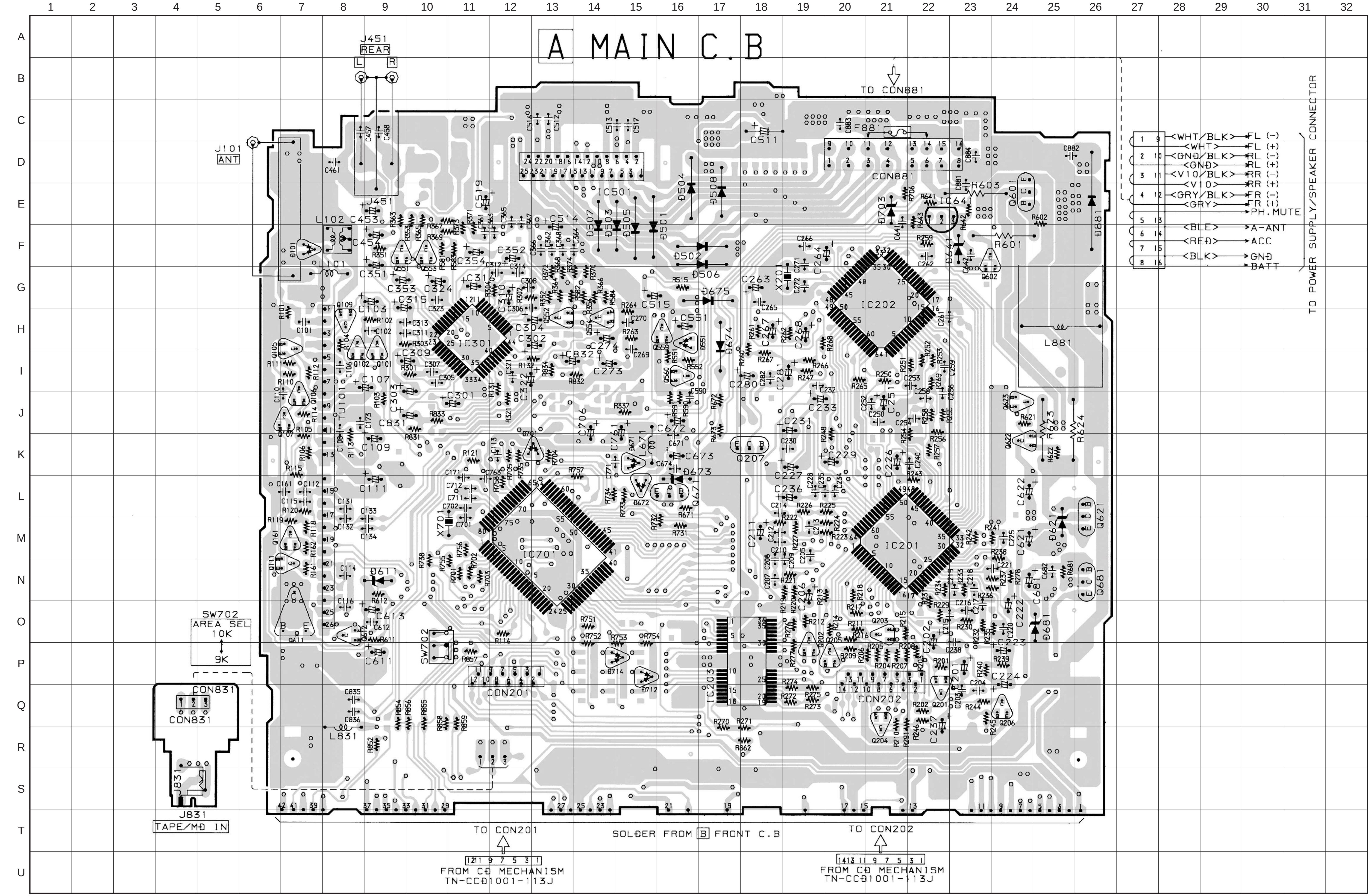


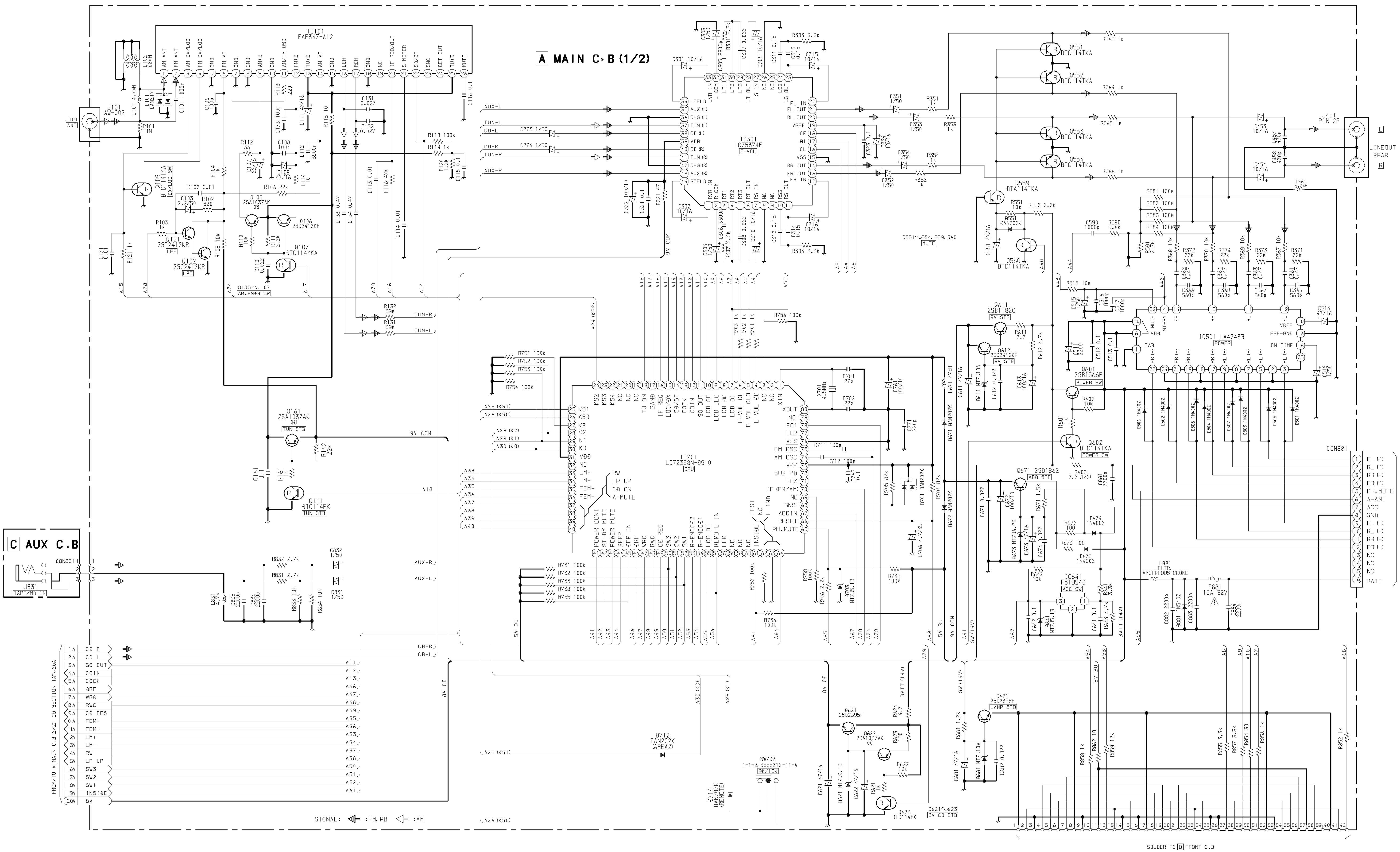
2SB1566

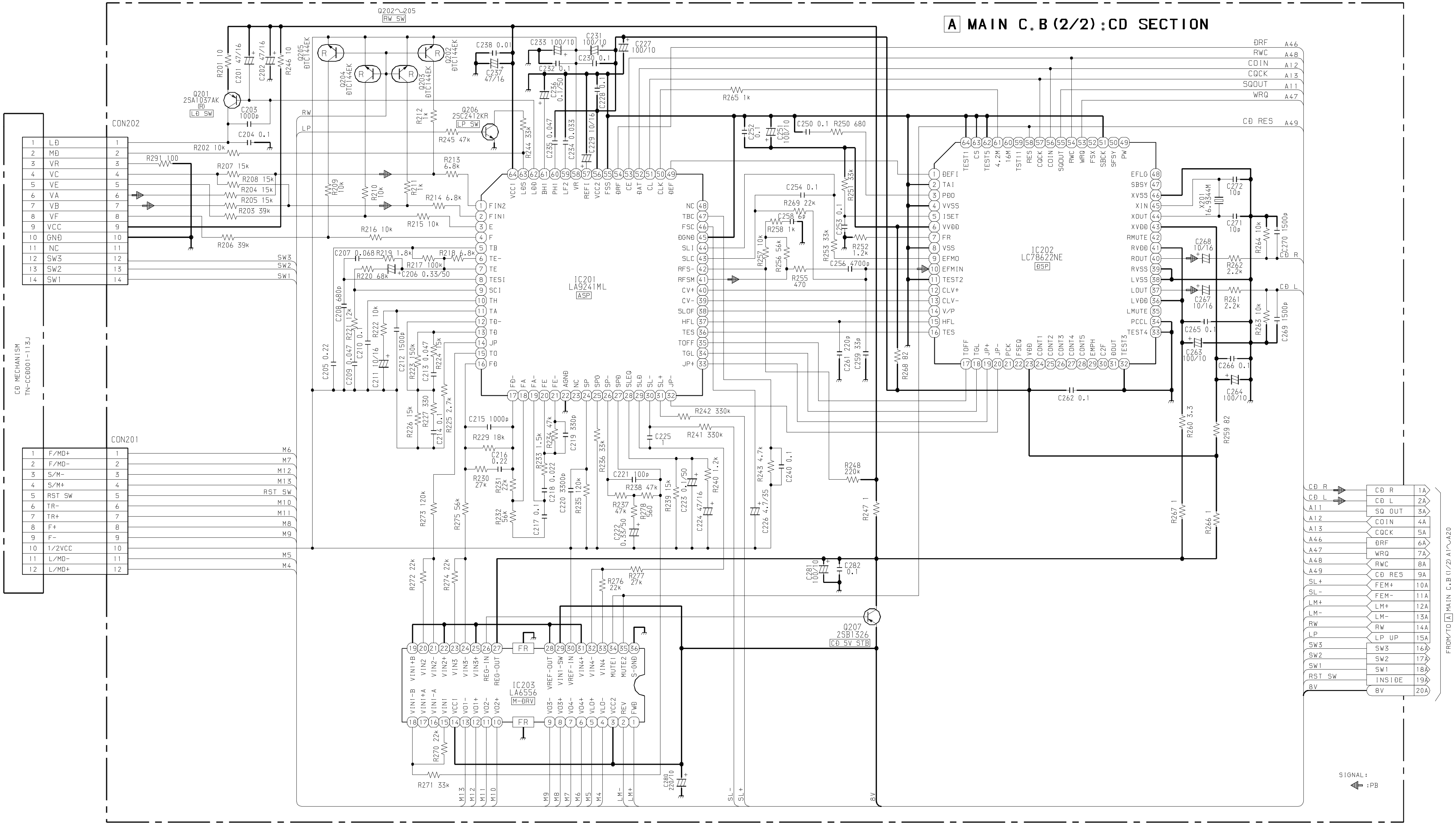


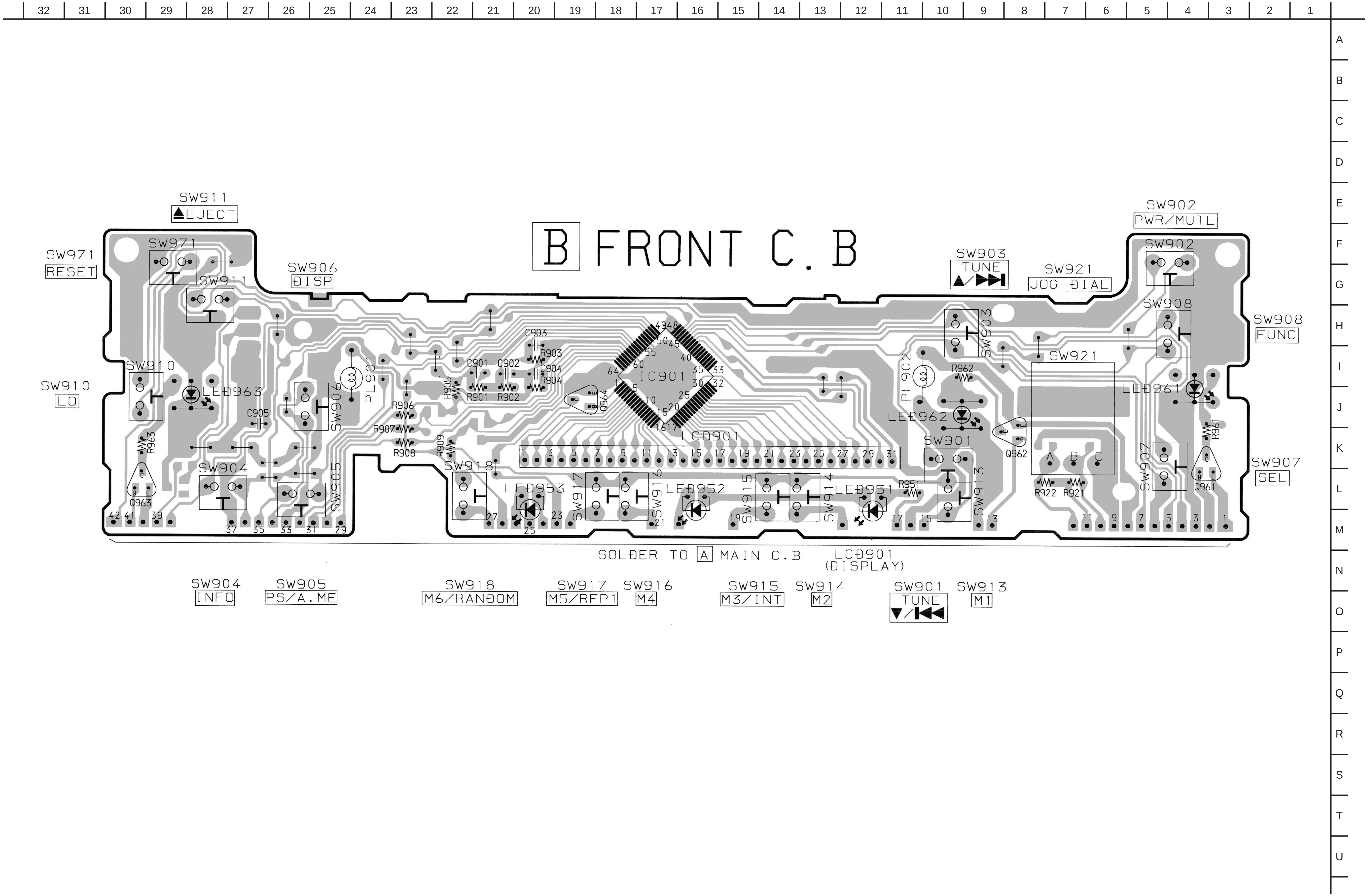
2SD2395


32 31 30 29 28 27 26 25 24 23 22 21 20 19 18 17 16 15 14 13 12 11 10 9 8 7 6 5 4 3 2 1
A B C D E F G H I J K L M N O P Q R S T U
A MAIN C.B


A MAIN C.B
J451
REAR
J101
ANT
TO CON881
CON881
TO POWER SUPPLY/SPEAKER CONNECTOR
<WHT/BLK> FL (−)
<WHT> FL (+)
<GND/BLK> RL (−)
<GND> RL (+)
<V10/BLK> RR (−)
<V10> RR (+)
<GRY/BLK> FR (−)
<GRY> FR (+)
PH.MUTE
<BLE> A-ANT
<RED> ACC
<BLK> GND
BATT
IC501
IC301
IC202
IC701
IC201
IC203
SW702
AREA SEL
10K
9K
CON831
J831
TAPE/MD IN
CON201
CON202
TO CON201
SOLDER FROM B FRONT C.B
TO CON202
FROM CD MECHANISM
TN-CCD1001-113J
FROM CD MECHANISM
TN-CCD1001-113J

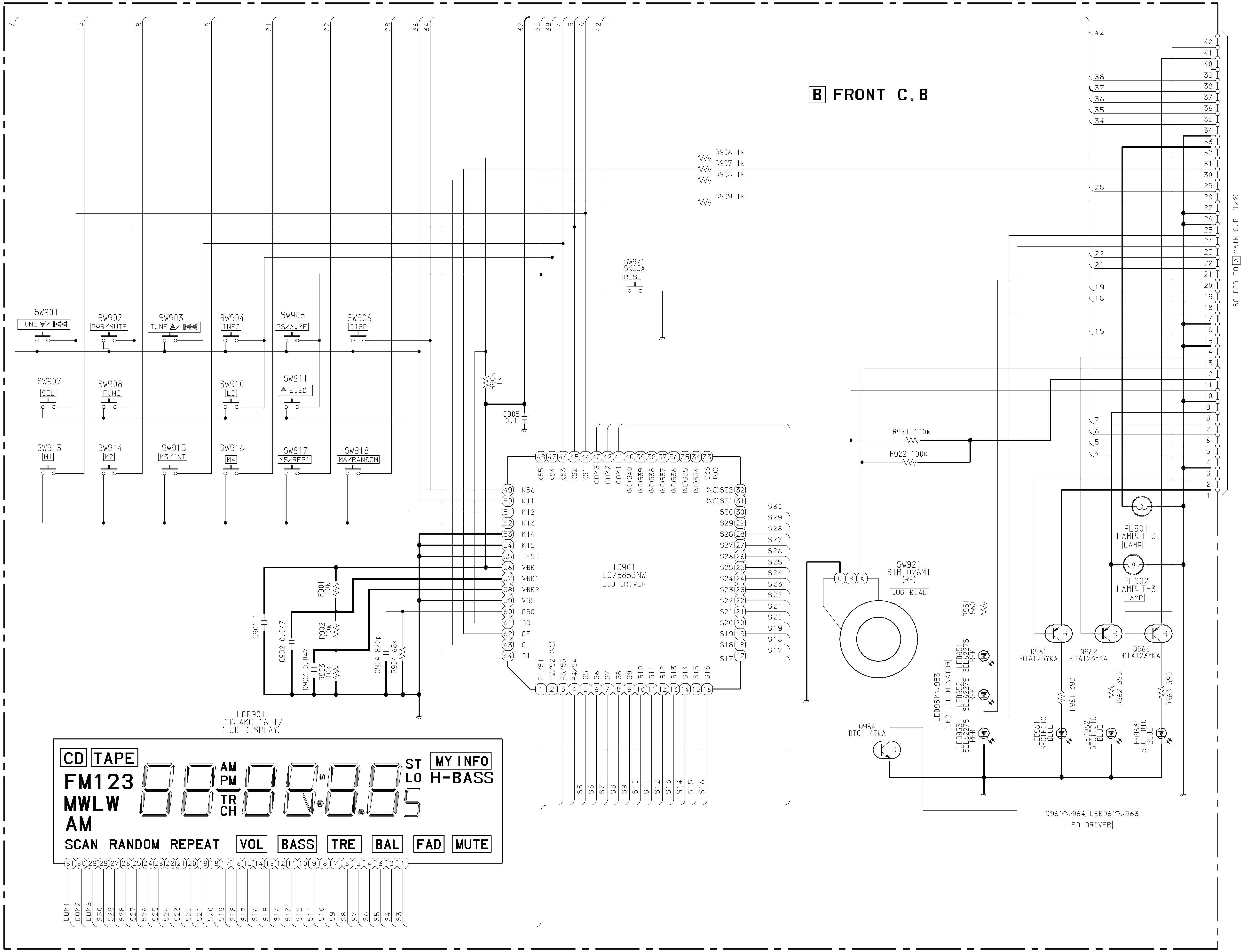

A MAIN C.B (1/2)
C AUX C.B
TU101 FAE347-A12
IC301 LC75374E
IC701 LC72358N-9910
IC501 LA4743B
J101 AW-002
J451 PIN 2P
LINEOUT REAR
CON881
TO POWER SUPPLY/SPEAKER CONNECTOR
SOLDER TO B FRONT C.B
FROM/TO A MAIN C.B (2/2) CD SECTION 1A~20A
SIGNAL: :FM, PB :AM


A MAIN C.B (2/2) : CD SECTION
CON202
CON201
CD MECHANISM TN-CCD001-113J
IC201 LA9241ML ASP
IC202 LC78622NE DSP
IC203 LA6556 M-DRV
Q201 2SA1037AK (R) LD SW
Q202～205 RW SW
Q206 2SC2412KR LP SW
Q207 2SB1326 CD 5V STB
X201 16.9344M
FROM/TO A MAIN C.B (1/2) A1～A20
SIGNAL: :PB



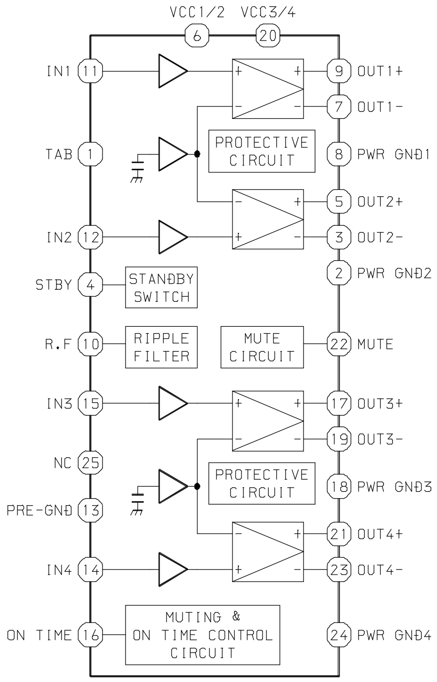
B FRONT C.B
SW911 ▲EJECT
SW971 RESET
SW906 DISP
SW910 LO
SW903 TUNE ▲/▶▶|
SW921 JOG DIAL
SW902 PWR/MUTE
SW908 FUNC
SW907 SEL
IC901
LCD901
LED963
LED962
LED961
LED953
LED952
LED951
PL901
PL902
Q961
Q962
Q963
Q964
SOLDER TO A MAIN C.B
LCD901 (DISPLAY)
SW904 INFO
SW905 PS/A.ME
SW918 M6/RANDOM
SW917 M5/REP1
SW916 M4
SW915 M3/INT
SW914 M2
SW901 TUNE ▼/|◀◀
SW913 M1

SCHEMATIC DIAGRAM - 3 (FRONT)

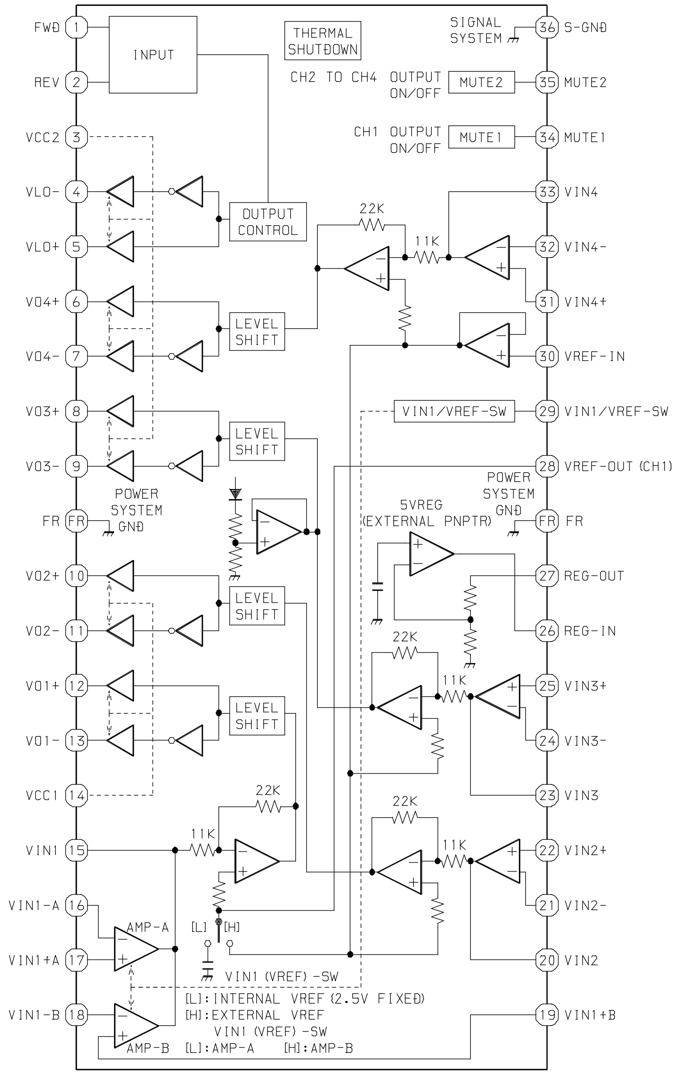


IC BLOCK DIAGRAM

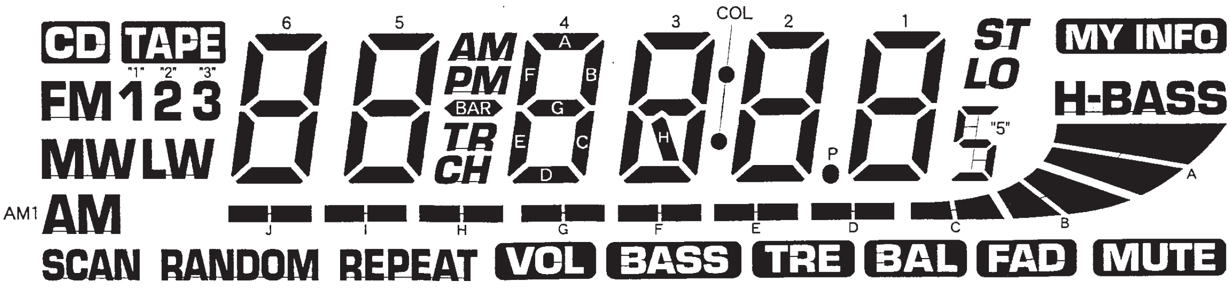
IC,LA4743B



IC,LA6556



LCD DIAGRAM



NO	COM1	COM2	COM3
1	MUTE	A	H-BASS
2	B	LO	MY INFO
3	FAD	"5"	ST
4	C	1B	1A
5	1C	1G	1F
6	BAL	1D	1E
7	D	2B	2A
8	2C	2G	2F
9	TRE	2D	2E
10	E	3B	3A
11	3C	3G	3F
12	BASS	3H	COL
13	F	3D	3E
14	VOL	4B	4A
15	4C	4G	4F
16	G	4D	4E
17	H	PM	P
18	REPEAT	TR	BAR
19	I	5D	5E
20	5C	5G	5F
21	CH	5B	5A
22	RANDOM	J	AM
23	6B	6A	"3"
24	6C	6G	6F
25	6D	6E	"2"
26	SCAN	"1"	TAPE
27	——	LW	FM
28	AM1	MW	CD
29	——	——	COM3
30	——	COM2	——
31	COM1	——	——

VOLTAGE CHART

IC, LC72358N-9910

PIN NO.	BU (V)	BU+ACC (V)	FM (V)	AM(V)	CD (V)	AUX (V)
1	2.45	2.47	2.35	2.35	2.42	2.28
2 ~ 6	0	0	0	0	0	0
7	4.87	4.91	4.85	4.84	4.90	4.87
8	0	0	0.05	0.05	0.15	0.03
9	0.10	0.10	0.20	0.21	0.70	0.21
10	0.10	0.10	0.22	0.21	0.75	0.24
11	0	0	0	0	0.03	0
12	0	0	0	0	0	0
13	0	0	0	0	4.83	0
14	0	0	4.57	4.54	0	0
15 ~ 16	0	0	0	0	0	0
17	0	0	0	0	4.78	0
18	0	0	4.72	4.72	0	0
19 ~ 30	0	0	0	0	0	0
31	4.98	5.00	4.79	4.85	4.91	4.85
32 ~ 38	0	0	0	0	0	0
39	0	0	0	0	4.84	0
40	0	0	4.72	4.72	4.84	4.79
41	0	0	4.72	4.73	4.83	4.79
42	0	0	4.74	4.74	4.85	4.80
43	0	0	4.78	4.77	4.89	4.84
44	0	0	0	0	0	0
45	4.46	4.49	4.44	4.45	4.52	4.46
46	0	0	0	0	4.84	0
47	0	0	0	0	2.00	0
48	0	0	0	0	0	0
49	0	0	0	0	4.89	0
50	0	0	0	0	0	0
51	4.86	4.90	4.89	4.89	0	4.87
52	0	0	0	0	4.94	0
53	4.78 / 0	4.78 / 0	4.75 / 0	4.75 / 0	4.75 / 0	4.75 / 0
54	4.80 / 0	4.80 / 0	4.77 / 0	4.77 / 0	4.77 / 0	4.75 / 0
55	4.87	4.90	4.86	4.86	4.90	4.84
56	4.82 / 4.78	4.82 / 4.78	4.70 / 4.75	4.70 / 4.75	4.70 / 4.75	4.72 / 4.75
57	3.40	3.44	3.44	3.44	3.50	3.41
58 ~ 60	0	0	0	0	0	0
61	4.86	4.89	4.88	4.87	4.93	4.87
62 ~ 64	0	0	0	0	0	0
65	3.31	3.32	3.31	3.32	3.32	3.31
66	4.94	4.96	4.78	4.78	4.87	4.79
67	0	0	4.63	4.62	4.61	4.62

PIN NO.	BU (V)	BU+ACC (V)	FM (V)	AM(V)	CD (V)	AUX (V)
68	4.94	4.95	4.76	4.76	4.87	4.79
69	0	0	0.58	0.57	0	0.59
70	0	0	2.51	2.51	0	2.52
71 ~ 72	0	0	0	0	0	0
73	4.98	4.97	4.80	4.80	4.91	4.84
74	0	0	0	2.34	0	2.31
75	0	0	2.45	0.01	0	0.03
76	0	0	0	0	0	0
77	0	0	0.08	0.08	0	0
78	0	0	1.04	1.04	1.05	0
79	0	0	0	0	0	0
80	2.53	2.52	2.45	2.46	2.50	2.47

IC, LA4743B

PIN NO.	BU (V)	BU+ACC (V)	FM (V)	AM(V)	CD (V)	AUX (V)
1 ~ 2	0	0	0	0	0	0
3	0	0	2.75	2.74	2.74	2.74
4	0	0	4.76	4.82	4.83	4.84
5	0	0	2.74	2.74	2.75	2.75
6	14.40	14.40	14.38	14.38	14.38	14.38
7	0	0	2.75	2.74	2.74	2.74
8	0	0	0	0	0	0
9	0	0	2.68	2.73	2.73	2.74
10	0	0	13.17	13.15	13.16	13.16
11	0	0	3.04	3.07	3.07	3.08
12	0	0	3.09	3.11	3.11	3.11
13	0	0	0	0	0	0
14	0	0	3.09	3.11	3.11	3.11
15	0	0	3.04	3.07	3.07	3.08
16	0	0	2.29	2.40	2.41	2.40
17	0	0	2.71	2.74	2.74	2.74
18	0	0	0	0	0	0
19	0	0	2.73	2.74	2.74	2.74
20	14.40	14.40	14.38	14.38	14.38	14.35
21	0	0	2.76	2.73	2.73	2.73
22	0	0	4.54	4.55	4.58	4.56
23	0	0	2.72	2.76	2.76	2.77
24 ~ 25	0	0	0	0	0	0

IC, LA9241ML

PIN NO.	BU (V)	BU+ACC (V)	FM (V)	AM(V)	CD (V)	AUX (V)
1 ~ 2	0	0	0	0	2.50	0
3	0	0	0	0	2.53	0
4	0	0	0	0	2.49	0
5 ~ 7	0	0	0	0	2.51	0
8	0	0	0	0	2.52	0
9 ~ 12	0	0	0	0	2.51	0
13	0	0	0	0	2.50	0
14	0	0	0	0	2.51	0
15	0	0	0	0	2.50	0
16	0	0	0	0	2.61	0
17	0	0	0	0	2.52	0
18	0	0	0	0	2.42	0
19	0	0	0	0	2.52	0
20	0	0	0	0	2.53	0
21	0	0	0	0	2.51	0
22 ~ 23	0	0	0	0	0	0
24 ~ 25	0	0	0	0	2.47	0
26 ~ 28	0	0	0	0	0	0
29	0	0	0	0	2.63	0
30	0	0	0	0	2.37	0
31 ~ 33	0	0	0	0	0	0
34	0	0	0	0	4.93	0
35	0	0	0	0	0	0
36	0	0	0	0	1.0	0
37 ~ 39	0	0	0	0	0	0
40	0	0	0	0	0.50	0
41	0	0	0	0	2.29	0
42	0	0	0	0	2.40	0
43	0	0	0	0	2.41	0
44	0	0	0	0	2.50	0
45 ~ 46	0	0	0	0	2.51	0
47	0	0	0	0	2.41	0
48 ~ 49	0	0	0	0	0	0
50	0	0	0	0	2.41	0
51	0	0	0	0	4.80	0
52 ~ 53	0	0	0	0	0	0
54	0	0	0	0	4.84	0
55	0	0	0	0	0	0
56	0	0	0	0	4.93	0
57 ~ 58	0	0	0	0	2.51	0
59	0	0	0	0	2.39	0

PIN NO.	BU (V)	BU+ACC (V)	FM (V)	AM(V)	CD (V)	AUX (V)
60	0	0	0	0	0	0
61	0	0	0	0	2.22	0
62	0	0	0	0	3.71	0
63	0	0	0	0	0.19	0
64	0	0	0	0	4.91	0

IC, LA6556

PIN NO.	BU (V)	BU+ACC (V)	FM (V)	AM(V)	CD (V)	AUX (V)
1 ~ 2	0	0	0	0	0	0
3	0	0	0	0	8.44	0
4 ~ 5	0	0	0	0	0	0
6	0	0	0	0	3.70	0
7	0	0	0	0	4.06	0
8	0	0	0	0	3.76	0
9	0	0	0	0	4.05	0
10	0	0	0	0	3.86	0
11	0	0	0	0	3.88	0
12	0	0	0	0	3.60	0
13	0	0	0	0	4.20	0
14	0	0	0	0	8.45	0
15	0	0	0	0	2.38	0
16 ~ 17	0	0	0	0	0	0
18 ~ 22	0	0	0	0	2.51	0
23	0	0	0	0	2.45	0
24 ~ 25	0	0	0	0	2.51	0
26	0	0	0	0	7.85	0
27	0	0	0	0	4.98	0
28	0	0	0	0	2.51	0
29	0	0	0	0	8.44	0
30 ~ 32	0	0	0	0	2.51	0
33	0	0	0	0	2.43	0
34 ~ 35	0	0	0	0	4.91	0
36	0	0	0	0	0	0

IC, LC78622NE

PIN NO.	BU (V)	BU+ACC (V)	FM (V)	AM(V)	CD (V)	AUX (V)
1	0	0	0	0	0.05	0
2	0	0	0	0	0	0
3	0	0	0	0	1.55	0
4	0	0	0	0	0	0
5	0	0	0	0	1.77	0
6	0	0	0	0	4.69	0
7	0	0	0	0	0.33	0
8	0	0	0	0	0	0
9	0	0	0	0	2.49	0
10	0	0	0	0	2.39	0
11	0	0	0	0	0	0
12	0	0	0	0	0.50	0
13 ~ 17	0	0	0	0	0	0
18	0	0	0	0	4.92	0
19 ~ 20	0	0	0	0	0	0
21	0	0	0	0	2.35	0
22 ~ 23	0	0	0	0	4.93	0
24 ~ 30	0	0	0	0	0	0
31	0	0	0	0	2.47	0
32 ~ 36	0	0	0	0	0	0
37	0	0	0	0	2.03	0
38 ~ 39	0	0	0	0	0	0
40	0	0	0	0	2.03	0
41	0	0	0	0	4.96	0
42	0	0	0	0	4.92	0
43	0	0	0	0	4.79	0
44	0	0	0	0	1.75	0
45	0	0	0	0	1.85	0
46	0	0	0	0	0	0
47	0	0	0	0	0.10	0
48	0	0	0	0	0.02	0
49	0	0	0	0	0.11	0
50	0	0	0	0	2.47	0
51	0	0	0	0	0	0
52	0	0	0	0	2.46	0
53	0	0	0	0	2.0	0
54	0	0	0	0	0	0
55	0	0	0	0	0.04	0
56	0	0	0	0	0	0
57	0	0	0	0	4.80	0
58	0	0	0	0	4.88	0

PIN NO.	BU (V)	BU+ACC (V)	FM (V)	AM(V)	CD (V)	AUX (V)
59	0	0	0	0	0	0
60	0	0	0	0	1.93	0
61	0	0	0	0	2.34	0
62 ~ 64	0	0	0	0	0	0

TU UNIT, FAE347-A12

PIN NO.	BU (V)	BU+ACC (V)	FM (V)	AM(V)	CD (V)	AUX (V)
1 ~ 2	0	0	0	0	0	0
3	0	0	0	0.02	0	0
4	0	0	6.89	0	6.93	0
5	0	0	0	0	0	0
6	0	0	3.42	3.42	3.42	3.42
7 ~ 8	0	0	0	0	0	0
9	0	0	0	7.95	0	7.85
10 ~ 11	0	0	0	0	0	0
12	0	0	7.27	0	7.31	0
13	0	0	7.58	7.49	7.61	7.46
14	0	0	3.41	3.42	3.42	3.42
15	0	0	0	0	0	0
16	0	0	3.41	3.44	3.39	3.42
17	0	0	3.36	3.41	3.39	3.42
18 ~ 19	0	0	0	0	0	0
20	0	0	0.01	0.01	0	0
21	0	0	5.74	3.66	0.43	0
22	0	0	4.55	4.56	4.56	4.54
23	0	0	1.07	0.63	0.05	0.04
24	0	0	4.07	1.21	4.01	1.21
25	0	0	7.58	7.50	7.61	7.46
26	0	0	0	0.03	2.05	0.03

IC, LC75374E

PIN NO.	BU (V)	BU+ACC (V)	FM (V)	AM(V)	CD (V)	AUX (V)
1	0	0	3.94	3.93	3.96	3.96
2	0	0	3.98	3.98	4.00	4.01
3	0	0	4.00	4.00	4.02	4.01
4 ~ 6	0	0	4.00	4.00	4.02	4.02
7	0	0	3.99	3.99	4.01	3.99
8 ~ 9	0	0	0	0	0	0
10	0	0	3.98	3.98	4.00	3.99
11	0	0	4.01	4.01	4.03	4.01
12	0	0	3.99	3.99	4.01	3.99
13	0	0	4.02	4.01	4.04	4.01
14	0	0	4.01	4.01	4.03	4.01
15 ~ 18	0	0	0	0	0	0
19	0	0	4.01	4.01	4.03	4.01
20 ~ 21	0	0	4.02	4.01	4.04	4.01
22	0	0	4.01	4.01	4.03	3.98
23	0	0	4.01	4.01	4.03	4.01
24	0	0	3.98	3.98	4.00	3.98
25 ~ 26	0	0	0	0	0	0
27	0	0	4.02	3.99	4.04	3.99
28	0	0	4.02	4.01	4.04	4.01
29	0	0	4.02	4.01	4.04	4.01
30 ~ 31	0	0	4.01	4.01	4.03	4.00
32	0	0	4.00	3.99	4.02	3.98
33	0	0	3.91	3.91	3.93	3.93
34	0	0	4.02	4.01	4.04	4.02
35	0	0	4.00	3.99	4.02	4.00
36	0	0	0	0	0	0
37 ~ 38	0	0	4.00	3.99	4.02	4.00
39	0	0	7.64	7.63	7.68	7.64
40	0	0	4.00	3.99	4.02	4.00
41	0	0	3.99	3.99	4.01	3.99
42	0	0	0	0	0	0
43	0	0	4.00	3.99	4.02	3.99
44	0	0	4.03	4.02	4.05	4.01

IC, LC75853NW

PIN NO.	BU (V)	BU+ACC (V)	FM (V)	AM(V)	CD (V)	AUX (V)
1	0	0	4.84	4.83	4.86	4.85
2	0	0	0	0	0	0
3	2.50	2.50	2.47	2.47	2.48	2.48
4	2.50	2.50	2.47	2.47	2.48	2.47
5	2.50	2.50	2.47	2.47	2.48	2.48
6	2.50	2.50	2.47	2.47	2.48	2.47
7 ~ 10	2.50	2.50	2.47	2.46	2.47	2.47
11 ~ 12	2.50	2.50	2.47	2.47	2.47	2.47
13	2.50	2.50	2.47	2.46	2.47	2.47
14	2.50	2.50	2.47	2.47	2.48	2.47
15 ~ 16	2.50	2.50	2.47	2.47	2.47	2.47
17	2.50	2.50	2.47	2.47	2.48	2.47
18 ~ 19	2.50	2.50	2.47	2.47	2.47	2.47
20 ~ 23	2.50	2.50	2.47	2.47	2.48	2.47
24 ~ 25	2.50	2.50	2.47	2.47	2.47	2.47
26 ~ 29	2.50	2.50	2.47	2.47	2.48	2.47
30	2.50	2.50	2.47	2.46	2.47	2.47
31 ~ 32	2.50	2.50	2.49	2.47	2.48	2.47
33 ~ 40	2.50	2.50	2.48	2.47	2.48	2.47
41	2.50	2.50	2.48	2.46	2.47	2.47
42	2.50	2.50	2.48	2.47	2.47	2.47
43	2.50	2.50	2.48	2.46	2.48	2.46
44	4.96	4.96	4.95	4.92	4.93	4.91
45	4.96	4.96	4.95	4.93	4.93	4.91
46	4.96	4.96	4.95	4.92	4.93	4.91
47 ~ 49	4.96	4.96	4.95	4.92	4.93	4.91
50 ~ 55	0	0	0	0	0	0
56	4.99	4.99	4.95	4.92	4.93	4.91
57	3.33	3.33	3.32	3.29	3.30	3.28
58	1.67	1.67	1.67	1.65	1.66	1.65
59	0	0	0	0	0	0
60	3.91	3.91	3.88	3.88	3.88	3.87
61	4.96	4.96	4.92	4.86	4.88	4.86
62	0	0	0.25	0.24	0.77	0.24
63	0	0	0.25	0.20	0.67	0.24
64	0	0	0.04	0.03	0.18	0.03

IC DESCRIPTION

IC, LC72358N-9910

Pin No.	Pin Name	I/O	Description
1	XIN	I	System clock oscillator input.
2 ~ 3	NC	-	Not connected.
4	E-VOL DO	O	Data output for electric volume.
5	E-VOL CLO	O	Clock output for electric volume.
6	E-VOL CE	O	CE output for electric volume.
7	LCD DI	I	LCD driver data signal input.
8	LCD DO	O	LCD driver data signal output.
9	LCD CLO	O	LCD driver clock signal output.
10	LCD CE	O	LCD driver CE signal output.
11	SQ OUT	I	Sub-code Q input terminal.
12	COIN	O	Command output terminal for DSP.
13	CQCK	O	Transfer-out clock for command output or output terminal for Sub-code transfer-in clock from SQ OUT.
14	SD/ST	I	Stereo signal input when receiving. Hi=MONO, Low=ST FM reception. Channel detection signal input when FM/AM seeking. Hi=detect channel
15	LOC/DX	O	LOC/DX switching output when in the radio seek mode. Hi=LOC, Low=DX
16	IF REQ	O	IF count signal request output.
17	BAND	O	FM/AM power switch output. Hi=AM, Low=FM
18	TU ON	O	Radio power switch output. Hi=Radio mode
19 ~ 21	NC	-	Not connected.
22 ~ 23	KS4 ~ KS3	O	Initial setting diode matrix output(Not used).
24 ~ 26	KS2 ~ KS0	O	Initial setting diode matrix output.
27 ~ 30	K3 ~ K0	I	Initial setting diode matrix input.
31	VDD	-	Power supply.
32	NC	-	Not connected.
33	LM+	O	Loading motor control terminal.
34	LM-	O	Loading motor control terminal.
35	FEM+	O	Thread motor control terminal.
36	FEM-	O	Thread motor control terminal.
37	RW	O	RW disc control. Normal set to "Hi". Hi=NORMAL DISC, Low=RW DISC
38	LP UP	O	RW disc control. Normal set to "Lo". Hi=Disable playback even though
39	CD ON	O	CD power switch output. Hi=CD mode RW port is low
40	A-MUTE	O	Audio mute signal output.
41	POWER CONT	O	Power control signal output.
42	ST-BY MUTE	O	ST-BY mute signal output.
43	POWER MUTE	O	Power mute signal output.
44	BEEP	O	BEEP output(3 kHz, 50 ms).
45	DFP IN	I	Front panel detection.
46	DRF	I	"Detect RF" RF level detection input. Pulled up when not used.
47	WRQ	I	Sub-code Q output standby input terminal.

Pin No.	Pin Name	I/O	Description
48	RWC	O	Read / write control output terminal.
49	CD RES	O	DSP reset output terminal.
50	SW3	I	Disc detection / chuck or release disc detection.
51	SW2	I	12 cm disc detection / 12 cm disc ejection end detection.
52	SW1	I	Leading motor start detection.
53	R-ENCOD2	I	Rotary encoder input 2.
54	R-ENCOD1	I	Rotary encoder input 1.
55	LCD-DI	I	LCD driver data signal input.
56	REMOTE IN	I	Remote controller input. Pulled up when not used.
57	LED	O	Security LED flashing output. H: No light on, L: Light on.
58 ~ 60	NC	-	Not connected.
61	INSIDE	I	Pick up inner track position detection.
62	TEST	I	CD test mode. Pulled down when not used.
63	NC	-	Not connected.
64	L IND	I	Voltage input for level indecator. Pulled down when not used.
65	PH.MUTE	I	External mute control. Low=-20dB mute. Pulled up when not used.
66	RESET	I	System reset. Low= system reset.
67	HOLD	I	ACC (accessory power) ON/ OFF input. OFF=fault mode.
68	SNS	I	Backup detection.
69	NC	-	Not connected.
70	IF	I	IF count signal input (FM / AM).
71	EO3	-	Not used.
72	SUBPD	-	Not used.
73	VDD	-	Power supply.
74	AM OSC	I	AM channel transmission input.
75	FM OSC	I	FM channel transmission input.
76	VSS	-	Connected to GND.
77	EO2	O	Not used.
78	EO1	O	Error out from charge pump (for FM / AM).
79	NC	-	Not connected.
80	XOUT	O	System clock oscillator output.

IC, LA9241ML

Pin No.	Pin Name	I/O	Description
1	FIN2	O	For the connection of the pickup photodiode. Addition to the FIN1 pin creates an RF signal and subtraction from it create an EF signal.
2	FIN1	O	For the connection of the pickup photodiode.
3	E	O	For the connection of the pickup photodiode. Subtraction from the F pin creates a TE signal.
4	F	O	For the connection of the pickup photodiode.
5	TB	I	Inputs the DC components in the TE signal.
6	TE-	O	For the connection of a resistor which sets the gain of the TE signal between this pin and the TE pin.
7	TE	O	TE signal output.
8	TESI	I	TES (track error sense) comparator input. The signal is passed through a BPF.
9	SCI	I	Shock detection input.
10	TH	I	Sets the time constant for the tracking gain.
11	TA	O	TA amp output.
12	TD-	I	Composes the tracking phase compensation constant between the TD and VR pins.
13	TD	I	Sets the tracking phase compensation.
14	JP	I	Sets the amplitude of the tracking jump signal (kick pulses).
15	TO	O	Tracking control signal output.
16	FD	O	Focusing control signal output.
17	FD-	I	Composes the focusing phase compensation constant between the FD and FA pins.
18	FA	O	Composes the focusing phase compensation constant between the FD and FA pins.
19	FA-	I	Composes the focusing phase compensation constant between the FD and FA pins.
20	FE	O	FE signal output.
21	FE-	I	For the connection of a resistor whichs sets the gain of the FE signal between this pin and the TE pin.
22	A-GND	O	Ground of analog signals.
23	SP	O	Single-ended output of the signals input to the CV+ and CV- pins.
24	SPI	I	Spindle amp input.
25	SPG	I	For the connection of a resistor which sets the gain in the spindle 12cm mode.
26	SP-	I	For the connection of the spindle phase compensation constant with the SPD pin.
27	SPD	O	Spindle control signal output.
28	SLEQ	I	For the connection of sled phase compensation constant.
29	SLD	O	Sled control signal output.
30	SL-	I	Sled feed signal input from the microprocessor.
31	SL+		
32	JP-	I	Tracking signal input from the DSP.
33	JP+		
34	TGL	I	Tracking gain control signal input from the DSP. Low gain when TGL is "H".
35	TOFF	I	Tracking off control signal input from the DSP. Off when TOFF is "H".
36	TES	O	Outputs the TES signal to the DSP.

Pin No.	Pin Name	I/O	Description
37	HFL	O	The HFL (high frequency level) signal is used to judge whether the main beam is positioned on the pit or on the mirror.
38	SLOF	I	Sled servo off control input.
39	CV-	I	CLV error signal input from the DSP.
40	CV+		
41	RFSM	O	RF output.
42	RFS-	O	Sets the RF gain and the EFM singal's 3T compensation constant togther with the RFSM pin.
43	SLC	O	The SLC (slice level control) signal is output to control the DSP's data slice level of the RF waveform.
44	SL1	I	Input to control the DSP's data slice level.
45	D-GND	-	Ground of digital signals.
46	FSC	O	Output for the focus search smoothing capacitor.
47	TBC	I	The TBC (tracking balance control) signal sets the EF balance variation range.
48	NC	-	Not connected.
49	DEF	O	Disc defect detection output.
50	CLK	I	Reference clock input. 4.23 MHz is input from the DSP.
51	CL	I	Microprocessor command clock input.
52	DAT	I	Microprocessor command data input.
53	CE	I	Microprocessor chip enable input.
54	DRF	O	DRF (detect RF) is an output to detect the RF level.
55	FSS	I	The FSS (focus search select) signal switches the focus search modes (+/-search / +search with respect to the reference voltage). (Not connected)
56	VCC2	-	VCC of servo and digital circuits.
57	REF1	-	For the connection of bypass capacitor for the reference voltage.
58	VR	O	Reference voltage output.
59	LF2	-	Sets the time constant for disc defect detection.
60	PH1	-	For the connection of a capacitor to hold the RF signal peak.
61	BH1	-	For the connection of a capacitor to hold the RF signal bottom.
62	LDD	O	APC circuit output.
63	LDS	I	APC circuit input.
64	VCC1	-	VCC of RF signal circuits.

IC, LC78622NE

Pin No.	Pin Name	I/O	Description
1	DEFI	I	Defect detection signal (DEF) input. (Must be connected to 0V when unused.)
2	TAI	I	For PLL/Test input. A pull-down resistor is built-in. (Must be connected to 0V.)
3	PDO	O	External VCO control phase comparator output.
4	VVSS	-	Intetnal VCO ground. (Must be connected to 0V.)
5	ISET	I	PDO output current adjustment resistor connection.
6	VVDD	-	Internal VCO power supply.
7	FR	I	VCO frequency range adjustment.
8	VSS	-	Digital system ground. (Must be connected to 0V.)
9	EFMO	O	Slice level control EFM signal output.
10	EFMIN	I	Slice level control EFM signal input.
11	TEST2	I	Test input. A pull-down resistor is built-in. (Must be connected to 0V.)
12	CLV+	O	Disc motor control output. Can be set to three-value output by microprocessor command.
13	CLV-		
14	V/P	O	Rough servo/phase control automatic switching monitor output. Outputs a high level during rough servo a low level.
15	HFL	I	Track detection signal input. This is a Schmitt input.
16	TES	I	Tracking error signal input. This is a Schmitt input.
17	TOFF	O	Tracking off output.
18	TGL	O	Tracking gain switching output. Increase the gain when low.
19	JP+	O	Track jump output. Three value output is also possible when specified by0 microprocessor command.
20	JP-		
21	PCK	O	EFM data playback clock monitor. Output 4.3218 MHz when the phase is locked.
22	FSEQ	O	Synchronization signal detection output. Output a high level when the synchronization signal detected from the EFM signal and the internaly generated synchronization signal range.
23	VDD	-	Digital system power supply.
24 ~ 28	CONT1 ~ 5	I/O	General purpose input/ output pin1 ~ 5.
29	EMPH/CONT6	O	De-emphasis monitor. A high level indicates playback of a De-emphasis disk./ General General purpose input/ output pin6.
30	C2F	O	C2 flag output.
31	DOUT	O	Digital output.
32	TEST3	I	Test input. A pull-down resistor is built-in. (Must be connected to 0V.)
33	TEST4	I	Test input. A pull-down resistor is built-in. (Must be connected to 0V.)
34	PCCL	I	General purpose input/ output command identifying. A pull-down resistor is built-in. "H": Control possible only for the general purpose input/ output port command. "L": Control possible for all commands.
35	MUTEL/CONT7	O	Left channel mute output./ General purpose input/ output pin.
36	LVDD	-	Left channel power supply.
37	LCHO	O	Left channel output.
38	LVSS	-	Left channel groud. (Must be connected to 0V.)

Pin No.	Pin Name	I/O	Description
39	RVSS	-	Right channel ground. (Must be connected to 0V.)
40	RCHO	O	Right channel output.
41	RVDD	-	Right channe power supply.
42	MUTER/CONT8	O	Right channel mute output./ General purpose input/ output.
43	XVDD	-	Crystal oscillator power supply.
44	XOUT	O	Connections for a 16.9344 MHz crystal oscillator element.
45	XIN	I	
46	XVSS	-	Crystal oscillator ground. (Must be connected to 0V.)
47	SBSY	O	Subcode clock synchronization signal output.
48	EFLG	O	C1, C2, sigle an double error correction monitor.
49	PW	O	Subcode P, Q, R, S, T, U and W output.
50	SFSY	O	Subcode frame synchronization signal output. This signal falls when the subcode are in standby stase.
51	SBCK	I	Subcode readout clock input. This is a Schmitt input.
52	FSX	O	Output pin for the 7.35 kHZ synchronization signal divided from the crystal oscillator.
53	WRQ	O	Subcode Q output standby output.
54	RWC	I	Read/write control input. This is a Schmitt input.
55	SQOUT	O	Subcode Q output.
56	COIN	I	Command input pin from control microprocessor.
57	CQCK	I	Input for both the command input acquisition clock and the SQOUT pin subcode readout clock input pin. This is Schmitt input.
58	RES	I	Reset input. This pin must be set low briefly after power is first applied.
59	TST11	O	Test output. Leave open. (Normally output a low level.)
60	16M	O	16.9344 MHz output.
61	4.2M	O	4.2336 MHz output.
62	TEST5	I	Test input. A pull-down resistor is built-in. (Must be connected to 0V.)
63	CS	I	Chip seledt input. A pull-down resistor is built-in. (Must be connected to 0V if not controlled.)
64	TEST1	I	Test input. No pull-down resistor. (Must be connected to 0V.)

IC, LC75374E

Pin No.	Pin Name	I/O	Description
1	RVRIN	I	4dB volume control input. Must be driven at a low impedance.
2	RCOM	–	1dB volume control common pin.
3 ~ 5	RT1 ~ RT3	–	For the connection of capacitors that compensate for bass and treble in the tone control circuits. A high-frequency compensation capacitors must be connected between T1 and T2. A low-frequency compensation capacitors must be connected between T2 and T3.
6	RTOUT	O	Tone control output.
7	RSIN	I	Super bass input. Must be driven at a low impedance.
8	NC	–	Connected to VSS.
9	NC	–	Not used.
10 ~ 11	RSB1 ~ RSB2	–	For the connection of RCH super bass compensation capacitors.
12	RFIN	I	Fader input. Must be driven at a low impedance.
13	RFOUT	O	Fader outputs. The front and rear sides can be attenuated independently.
14	RROUT		
15	VSS	–	Ground.
16	CL	I	Serial data and clock inputs for control.
17	DI		
18	CE	–	Chip enable. Data is written in the internal latch when the chip enable signal goes "L" from "H", and each analog switch is activated. Data transfer is enabled at "H".
19	VREF	–	Generates a 1/2VDD power source. A capacitor must be connected between VREF and VSS as a troubleshooting against power ripples.
20	LROUT	O	Fader outputs. The frount and rear sides can be attenuated independently.
21	LFOUT		
22	LFIN	I	Fader input. Must be driven at a low impedance.
23 ~ 24	LSB2 ~ LSB1	–	For the connection of LCH super bass compensation capacitors.
25	NC	–	Not used.
26	NC	–	Connected to VSS.
27	LSIN	I	Super bass input. Must be driven at a low impedance.
28	LTOUT	O	Tone control output.
29 ~ 31	LT3 ~ LT1	–	For the connection of capacitors that compensate for bass and treble in the tone control circuit. A high-frequency compensation capacitors must be connected between T1 and T2. A low-frequency compensation capacitors must be connected between T2 and T3.
32	LCOM	–	1dB volume control common pin.
33	LVRIN	I	4dB volume control input. Must be driven at a low impedance.
34	LSELO	O	Input selector output pin.
35	AUX(L)	I	Signal input pins.
36	CD(L)		
37	TUN(L)		
38	TP(L)		
39	VDD	–	Power supply.

Pin No.	Pin Name	I/O	Description
40	TP(R)	I	Signal input pins.
41	TUN(R)		
42	CD(R)		
43	AUX(R)		
44	RSELO	O	Input selector output pin.

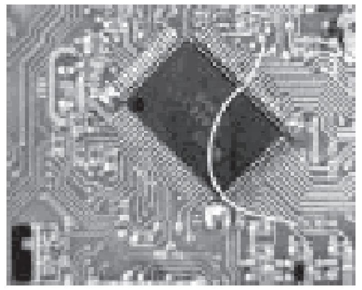
IC, LC75853NW

Pin No.	Pin Name	I/O	Description
1 ~ 40	S1 ~ S40	O	LCD segment output.
41 ~ 43	COM1~ COM3	O	LCD command driver outputs.
44 ~ 49	KS1 ~ KS6	O	Key scan outputs.
50 ~ 54	KI1 ~ KI5	I	Key scan inputs. These pins have build-in pull-down resistor.
55	TEST	-	Test pin. (Connected to GND.)
56	VDD	-	Power supply.
57	VDD1	I	Used for applying the LCD drive 2/3 bias voltage externally. (Must be connected to VDD2 when a 1/2 bias drive scheme is used.)
58	VDD2	I	Used for applying the LCD drive 1/3 bias voltage externally. (Must be connected to VDD1 when a 1/2 bias drive scheme is used.
59	VSS	-	Power supply. (Connected to GND.)
60	OSC	I/O	Resistor and capacitor are attached externally form an oscillator circuit.
61	DO	O	Serial data interface pin; output data.
62	CE	O	Serial data interface pin; chip enable.
63	CL	O	Serial data interface pin; synchronization.
64	DI	O	Serial data interface pin; data transferred.

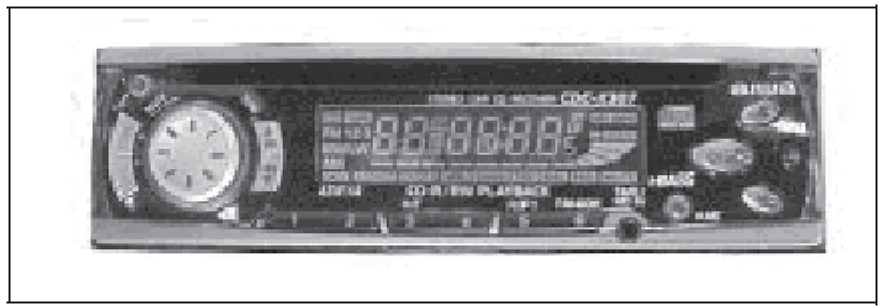
CD TEST MODE

1-1 How to Activate CD Test Mode

1) Connect 62 pin (test) of IC701 (LC72358N-9910) on MAIN C.B to the 31 pin (VDD) by cable.



2) Connect wire of ACC (red) and BACKUP (yellow) of power supply/speaker connector to DC+12V, then connect Ground (black) to -.
When CD test mode is started, all displays will be lighted as shown in the following figure.



1-2 How to cancel CD Test Mode

1) Disconnect the cable of 62 pin (test) and 31 pin (VDD) of the MAIN C.B IC701 (LC72358N-9910) and switch on the power.

1-3 CD Test Mode Functions

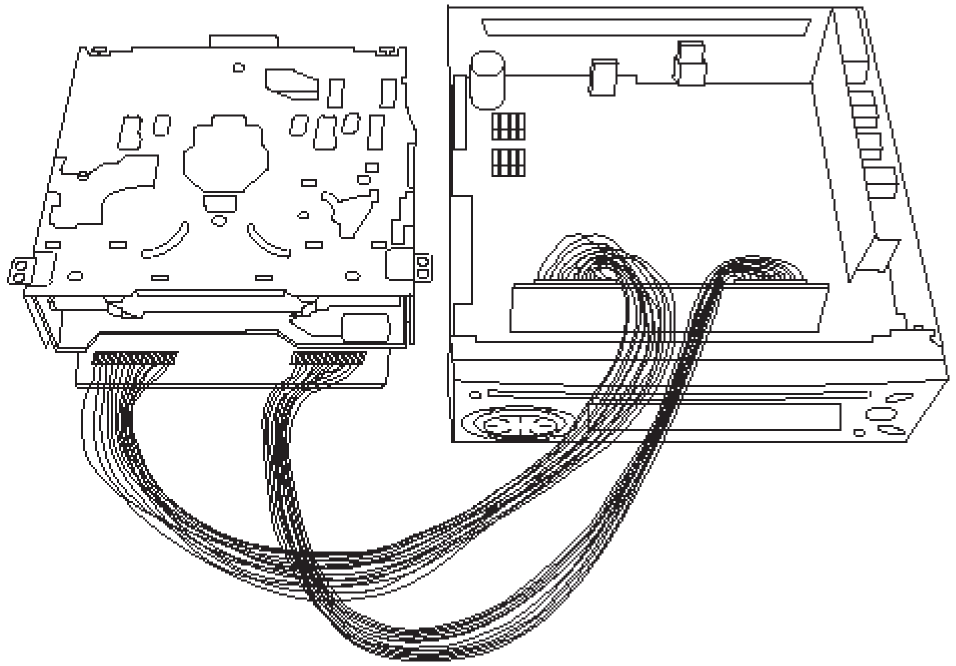
MODE	Keys to operate	Display	Operations	Contents
Start Mode		All lightented		• Start TEST MODE
Search Mode	RANDOM	TOC READING	• Continual Focus Search (The pickup lens respeats the full-swing up-down motion) * NOTE 1	• Confirm APC circuit • Laser current measurement • Confirm focus error waveform
Play Mode	REP 1	TRACK No. Playing Time Indica-tion Revel/Ing Indication	• Normal Play Back • Focus search is contiuned if TOC cannot be read	• Focus servo • Traking servo • CLV servo • Sled servo
Traverse Mode	INT	Track no. & Playing Time Indication	• Pause Status	• Traking servo OFF
Thread Mode		All lightened	• Pick up Move to outer most track • Pick up Move to inner most track	• Thread servo • Confirm mechanism operation
Gain Switch	1 (Preset Button)	All lightened	• Step 1 : For CD/CD-R • Step 2 : For CD-R RF Gain is up against Step 1 • Step 3 : For CD-R Laser Power Up against Step 2	• Step 1 to 3 are cyclic • "Error 03" is indicated if the Disc does not Step 1 match.

- Do not insert a Disc when confirming Search Mode
- Press PWR button when cancelling Search Mode. Test Mode will be restored when PWR button is pressed once again.
- Insert the "Test Disc" when operating all modes except search mode.

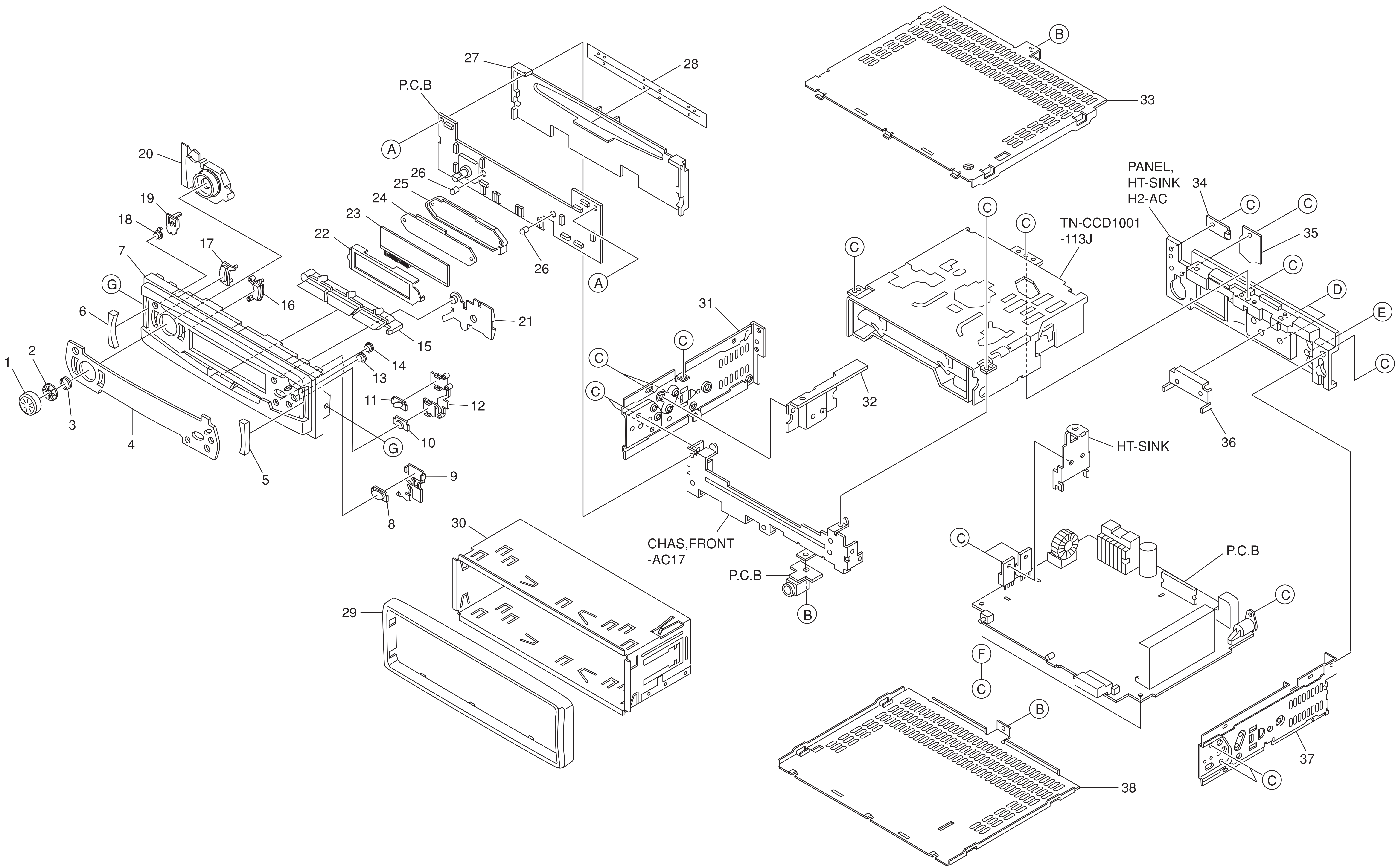
* NOTE 1 : There are CD operations are disable owing to the protection circuit being operated when heat builds up in the driver IC if the focus search is operated continually for more than 10 minutes. In cases, the power supply should be switched off for 10 minutes until heat has been reduced and then re-started.

Caution when servicing

(1) How to use extension jig.
Correct between MAIN C.B. and CD mechanisms by extension jigs when checking CD mechanism (TN-CCD1001-113J) operation.
(Refer to the following figure.)



Parts Description	AKC-JIG	Parts Number	SV-J00-075-010


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36
37
38
P.C.B
CHAS,FRONT
-AC17
TN-CCD1001
-113J
PANEL,
HT-SINK
H2-AC
HT-SINK
A
B
C
D
E
F
G

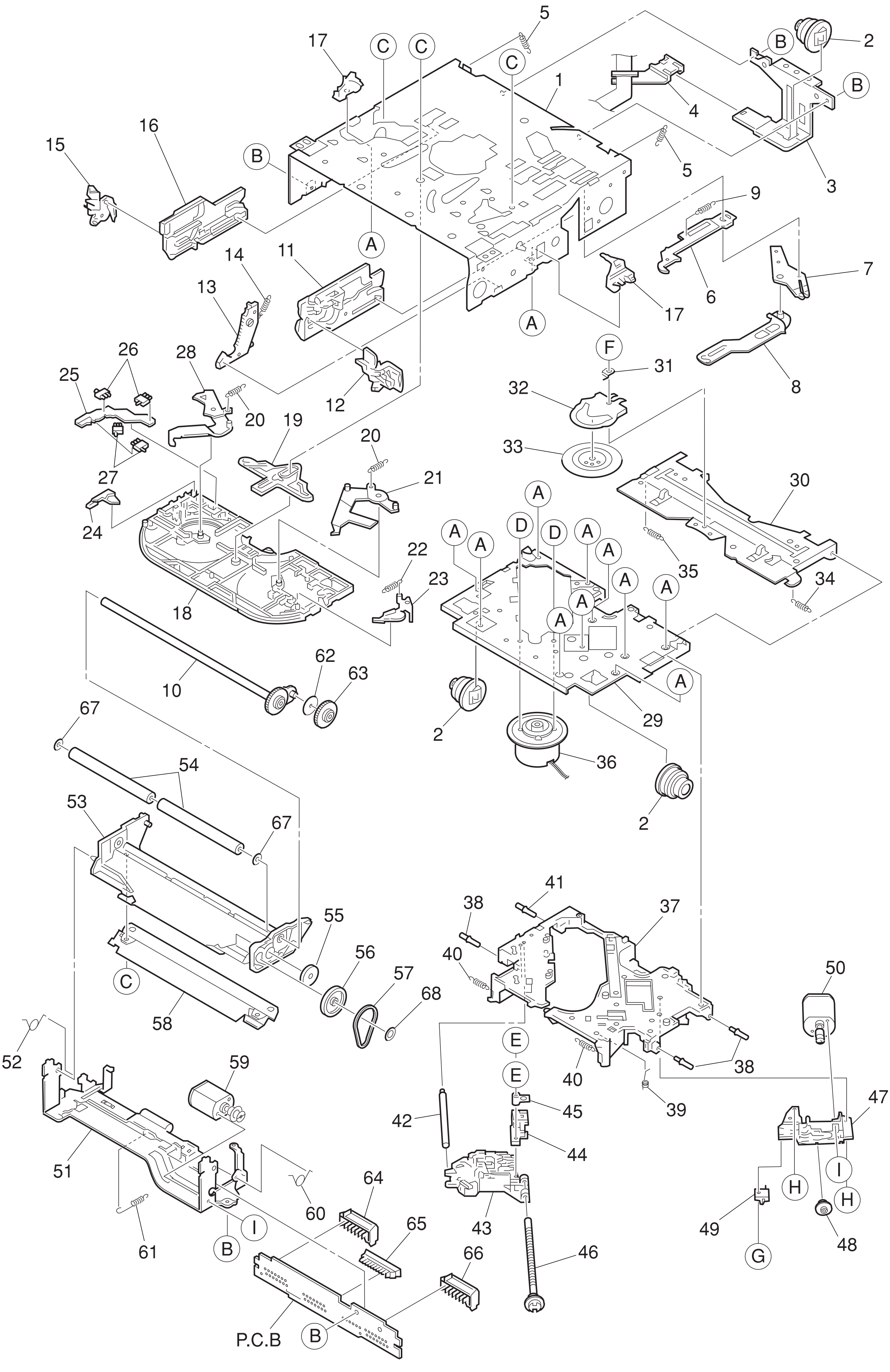
MECHANICAL PARTS LIST 1 / 1

REF. NO.	PART NO.	KANRI NO.	DESCRIPTION
1	8A-KC7-005-010		KNOB,RTRY -AC
2	8A-KC7-020-010		RING,RTRY -AC
3	8A-KC7-220-010		SPR-C,ROTARY -AC
4	8A-KCH-003-010		WINDOW,LCD Z107
5	8A-KCF-022-010		WINDOW,SIDE R -AC15
6	8A-KCF-021-010		WINDOW,SIDE L -AC15
7	8A-KCH-001-010		CABI,FRONT -AC17
8	8A-KC7-011-010		BTN,CLEAR L -AC
9	8A-KCF-208-010		HLDR,BTN R1 -AC15
10	8A-KC7-013-010		BTN,CLEAR ML -AC
11	8A-KCF-012-010		BTN,CLEAR EJ -AC15
12	8A-KCF-209-010		HLDR,BTN R2 -AC15
13	8A-KCF-008-010		BTN,MONO -AC15
14	8A-KCF-010-010		BTN,CLEAR S2 -AC15
15	8A-KC7-006-010		BTN,PRE.-AC
16	8A-KC7-007-010		BTN,SEESAW R -AC
17	8A-KCF-007-010		BTN,SEESAW L -AC15
18	8A-KC7-014-010		BTN,CLEAR S -AC
19	8A-KC7-208-010		HLDR,BTN L-AC
20	8A-KCF-211-010		LENS,ENCO -AC15
21	8A-KCF-212-010		LENS,R -AC15
22	8A-KCF-215-010		HLDR,LCD -AC15
23	8A-KCG-610-010		LCD,AKC-16-17
24	8A-KCF-213-010		LENS,LCD -AC15
25	8A-KCF-214-010		CASE,LCD LENS -AC15
26	8Z-KT1-236-010		CAP,LAMP BLU
27	8A-KCH-202-010		HLDR,PWB -AC17
28	8A-KCH-219-010		COVER, DUST
29	8A-KCH-020-010		CABI,TRIM -AC17
30	8Z-KC1-231-010		HLDR,HALF-C
31	8Z-KC1-213-010		CHAS,SIDE L -C
32	8A-KC7-230-010		HLDR,TR2-AC
33	8Z-KC1-211-010		COVER, TOP -C
34	8Z-KC7-201-010		COVER, ISO BLIND -C
35	8Z-KC3-201-010		COVER, CD BLIND -C
36	8A-KC7-224-010		HLDR,P-IC -AC
37	8Z-KC1-214-010		CHAS,SIDE R -C
38	8Z-KC1-212-010		COVER, BOTTOM -C
A	87-251-075-410		U+2.6-10
B	87-B10-216-010		U+2.6-4.0ZWC BLK
C	87-251-073-410		SCREW,U+2.6-6
D	87-251-100-410		U+3-16
E	87-B10-259-010		UT2+3.0-10.0 W/O SLOT (BH TAP)
F	87-432-903-010		WASHER,WTE 2.6
G	8Z-KC1-251-010		S-SCREW,TH2.6-4.0-0.8

COLOR NAME TABLE

Basic color symbol	Color	Basic color symbol	Color	Basic color symbol	Color
B	Black	C	Cream	D	Orange
G	Green	H	Gray	L	Blue
LT	Transparent Blue	N	Gold	P	Pink
R	Red	S	Silver	ST	Titan Silver
T	Brown	V	Violet	W	White
WT	Transparent White	Y	Yellow	YT	Transparent Yellow
LM	Metallic Blue	LL	Light Blue	GT	Transparent Green
LD	Dark Blue	DT	Transparent Orange		

CD MECHANISM EXPLODED VIEW 1 / 1



CD MECHANISM PARTS LIST 1 / 1

REF. NO.	PART NO.	KANRI NO.	DESCRIPTION
1	S3-031-010-010		FRAME
2	S3-031-050-240		DAMPER(J)
3	S3-031-010-260		REAR OAMPER BKT(J)
4	S3-031-010-270		FPC GUIDE
5	S3-031-010-290		HUNG UP SP(R)
6	S3-031-010-140		TRIG PL
7	S3-031-010-160		TRIG ARM
8	S3-031-010-120		TRIG LVR
9	S3-031-010-150		TRIG PL SPRING
10	S3-031-113-020		LDG RLR SFT ASSY
11	S3-031-010-200		FIX PL(R)
12	S3-031-010-180		FIX ARM(R)
13	S3-031-010-210		LDG GR(6)
14	S3-031-010-220		LDG GR(6)SPRING
15	S3-031-010-170		FIX ARM(L)
16	S3-031-010-190		FIX PL(L)
17	S3-031-010-030		DAMPER PIN
18	S3-031-010-070		UPPER PL
19	S3-031-010-080		SEL STOP PL
20	S3-031-010-330		S ARM SPRING(B)
21	S3-031-010-100		SEL ARM (R)
22	S3-031-010-250		S.L ARM SPRING
23	S3-031-010-240		S.L ARM
24	S3-031-110-240		SW ACTR
25	S3-031-110-230		SW PCB
26	S6-418-040-020		DET SW ESE22MH1
27	S6-418-040-030		DET SW ESE22MH3
28	S3-031-010-090		SEL ARM (L)
29	S3-031-050-010		TTB
30	S3-031-050-130		CLP ARM
31	S3-031-050-360		STOPPER SPR
32	S3-031-050-230		CLAMPER PLATE
33	S3-031-050-150		CLAMPER
34	S3-031-050-140		CLP ARM SPRING
35	S3-031-050-250		CLP ARM SPR(L)
36	S3-031-053-020		SPINDLE MOTOR ASSY
37	S3-031-050-030		FMB
38	S3-031-050-210		LOCK PIN
39	S3-031-050-100		THRUST SPR
40	S3-031-010-280		HUNG UP SP(F)
41	S3-031-050-220		LOCK PIN BL
42	S3-031-050-080		PU SHAFT
43	S6-901-160-110		PICK-UP OPTIMA-720AIE
44	S3-031-050-110		PU M NUT
45	S3-031-050-120		NUT PUSH SPR PL
46	S3-031-053-030		FEED SCREW ASSY
47	S3-031-050-040		FD GR BLK
48	S3-030-050-100		PU GEAR(B)
49	S6-418-040-040		DET SW ESE11HS2
50	S3-031-053-010		FEED MOTOR ASSY
51	S3-031-110-300		FRONT BRKT(J)
52	S3-031-110-180		L.P SPRING(L)
53	S3-031-110-080		GR MT BLK
54	S3-031-110-310		LDG ROLLER(S)
55	S3-031-110-100		LDG GR(3)
56	S3-031-110-090		LDG GR(2)
57	S3-031-110-290		LDG BELT
58	S3-031-110-050		SUPPORT PL
59	S3-031-113-010		LDG MOTOR ASSY
60	S3-031-110-190		L.P SPRING(R)
61	S3-031-010-300		LEVER SP
62	S9-W07-350-800		LUMILAR W 2.3-9.8-0.35
63	S3-031-110-120		LDG GR(5)
64	S6-815-020-350		CONNECTOR TKC-F14P-J3
65	S6-817-020-240		CONNECTOR 6208010115
66	S6-815-020-370		CONNECTOR TKC-F12P-J3
67	S9-W03-302-760		NW BLUE 2.9-5-0.3
68	S9-W06-400-300		HLW CUT 1.4-3.2-0.4
A	87-841-034-410		CAMERA B TAOPPING SCREW M2-5
B	87-741-033-410		CAMERA SCREW TS.G M2-4
C	87-351-549-310		CAMERA B TAPPING SCREW M2-4
D	87-267-525-310		CAMERA SCREW M1.7-2.2
E	87-B10-026-010		CAMERA TAPPING SCREW S M1.7-8
F	87-078-159-110		CAMERA TAPPING SCREW S 3 M2-2
G	87-067-643-010		CAMERA TAPPING SCREW B 3 M2-10
H	87-841-034-410		CAMERA TAPPING SCREW B 3 M2-5
I	87-261-032-410		TAMS SCREW M2-3

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